665.53827
Un3m
1968
summer

MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Stewart L. Udall, Secretary

John F. O'Leary, Director

JANUARY 1969

PETROLEUM PRODUCTS SURVEY
NO. 58

MOTOR GASOLINES, SUMMER 1968

THE LIBRARY OF THE
FEB 25
UNIVERSITY OF ILLINOIS

MOTOR GASOLINES, SUMMER 1968

by

O. C. Blade

Bartlesville Petroleum Research Center, Bureau of Mines
U. S. Department of the Interior, Bartlesville, Okla.

CONTENTS

	Page
Introduction	1
Summary	1
Terms, tables, and figures	2
Significance of data	4
List of motor-gasoline survey reports, 1958-68	4

ILLUSTRATIONS

Fig.		Follows page
1.	Trends of certain characteristics of regular-price gasolines	4
2.	Trends of certain characteristics of premium-price gasolines	4
3.	Distribution of research-method octane numbers	4
4.	Distribution of motor-method octane numbers	4
5.	Map showing locations and numbers of samples for the national motor gasoline survey, summer 1968	38

TABLES

		Page
1.	Summary of values, motor gasoline survey, summer 1968	5
2.	Summary of values, motor gasoline survey, summer 1967	5
3.	Average values of different brands, summer 1968	6
4.	Average values for brands from different districts	33
5.	Data for some additional grades	34
6.	Cumulative percents of samples of all grades by research octane numbers by districts	36
7.	Cumulative percents of samples of all grades by motor octane numbers by districts	37
8.	Locations and numbers of samples	38

Digitized by the Internet Archive
in 2013

http://archive.org/details/motorgasolines1968unit

INTRODUCTION

This report on the properties of motor fuels sold through service stations in the United States was made in accordance with a cooperative agreement between the American Petroleum Institute and the Bureau of Mines of the United States Department of the Interior. By agreement with the American Petroleum Institute, identification of the items is confidential.

It presents analytical data for 5,352 samples, representing the products of 73 companies. The samples were collected by companies during June, July, and August 1968. As in previous surveys, the gasolines covered by this survey include those from both large and small suppliers. The data were obtained by laboratories of various refiners, motor manufacturers, and chemical companies and submitted to the Bureau of Mines for compilation. A list of the motor-gasoline survey reports published during the past 10 years is on page 4.

SUMMARY

A summary of the characteristics of motor gasoline for summer 1968 is presented in table 1, and for comparison, a similar summary for summer 1967 is shown in table 2. Trends of some of the more important characteristics over a period of years are shown in figures 1 and 2. The following tabulation indicates trends of national average octane numbers during recent years:

	Regular-price		Premium-price	
	Octane number		Octane number	
	Research	Motor	Research	Motor
Winter 1966-67	93.7	85.9	99.8	91.7
Summer 1967	93.8	85.8	99.9	91.7
Winter 1967-68	93.8	85.9	99.9	91.9
Summer 1968	93.8	86.0	99.9	91.9

Regional average octane numbers of regular- and premium-price fuels may be found in tables 3 and 4.

Included in table 5 are data for three other grades of motor gasoline as follows:

	Third grade	Intermediate grade	Super-premium
Brands	4	2	2
Items	17	12	11
Samples	95	80	14

Analyses for third grade motor gasoline were shown in Bureau of Mines survey reports during the late thirties and early forties. Tabulating data for this grade was resumed in the survey of summer 1963, and data for the intermediate grade fuels were included in the same survey. Super-premium motor gasolines have been represented in the survey reports since summer 1956, but the samples and brands have decreased greatly since the survey of winter 1960-61.

TERMS, TABLES, AND FIGURES

Terms used in the surveys have the following meanings:

District: The designation of a marketing area for collecting samples and data. The present arrangement of 17 districts, developed by the CFR Committee, 1/ was selected with reference to the specifications on motor gasolines, refinery locations, population centers, and arteries of commerce such as navigable rivers. The States or parts of States in each district are indicated in the headings of table 3 and are shown in figure 5.

Brand: The gasoline sold in a given price group under a given trade name.

Item: The index number assigned to a given brand in a given district. The data for each item represent the average of those submitted for that brand in that district. The number of samples represented follows the item number.

Sample: The individual supply of gasoline obtained at the service station and analyzed in the laboratory.

Table 3 presents by districts data for gravity, sulfur, gum, lead, research- and motor-method octane numbers, Reid vapor pressure, and distillation characteristics of the motor fuels collected. The tests were made according to procedures standardized by the American Society for Testing and Materials. 2/

Corrosion test results are not included in the district tables as all the reported figures are "1," according to the corrosion scale given in table 1 of ASTM D130-56. 2/

1/ Coordinating Fuel and Equipment Research Committee (formerly the Coordinating Fuel Research Committee) of the Coordinating Research Council, Inc. From 1935 to 1948 the motor-gasoline surveys were conducted under a cooperative agreement between the Coordinating Research Council and the Bureau of Mines.

2/ American Society for Testing and Materials, 1968 Book of ASTM Standards, Part 17, Petroleum Products -- Fuels; Solvents; Burner Fuel Oils; Lubricating Oils; Cutting Oils; Lubricating Greases; Hydraulic Fluids, Philadelphia, 1968, 1,139 pp.

Gum test data are reported to the nearest whole figure. The distillation temperatures, corrected to barometric pressure at sea level, are on the percent evaporated basis.

Average values appear at the foot of the data columns in table 3 for the respective grades of fuel shown in each district. These values are arithmetical averages of the data shown for the items and were computed without reference to the total number of samples represented.

The district averages from table 3 are assembled in table 4. The third column in table 4 headed "Items (brands)" indicates the number of brands in the districts whose averages are here summarized. The figures at the foot of each column of data are national averages based on 17 districts.

Table 5 shows data, from their respective districts, for third grade, intermediate grade, and super-premium motor gasolines.

Figures 1 and 2 illustrate trends in the national averages of certain properties of regular- and premium-price gasolines, respectively, since summer 1946. Averages for the winter surveys are plotted on the lines representing the years and for the summer surveys between the lines. Octane-number points are connected for successive surveys, but those for Reid Vapor pressure and distillation temperatures are connected by season and appear as two lines on each chart. Charts showing plots of these properties from 1935 (except winter 1941-42 and summer 1942) may be seen in the survey report on motor gasolines for winter 1964-65 and in reports preceding that issue. 3/

Figures 3 and 4 illustrate distribution (frequency) of octane values by numbers of samples for all grades of fuel represented. Each bar represents one-half octane number.

The districts, locations, and numbers of samples of gasoline represented are listed in table 8 and shown on the map, figure 5, facing the table. The locations are named for the principal cities in the respective vicinities, and include suburbs and neighboring communities. The area of the circle at each location is proportional to the number of samples obtained. The segments of the large circle in the lower left corner, drawn to the same scale, represent the numbers of samples from the different districts. The summary at the end of table 8 lists by district the number of locations, samples, and the percentages of the latter based on the total reported.

3/ Blade, O. C., Motor Gasolines, Winter 1964-65. Bureau of Mines Petroleum Products Survey No. 40, 38 pp. (in cooperation with the American Petroleum Institute).

In tables 6 and 7 are tabulated by whole octane ratings the cumulative percentages of samples of all grades for each district by the research- and motor-methods, respectively.

SIGNIFICANCE OF DATA

This report does not discuss the significance of the data presented. Reference may be made to the ASTM specification 4/ for motor gasoline and its appendix, "Significance of ASTM Specifications for Motor Gasoline," at a technical library.

LIST OF MOTOR-GASOLINE SURVEY REPORTS, 1958-68

Author	Season and Year	Report No.	Published	Pages
In cooperation with the American Petroleum Institute				
Blade, O.C.	Winter 1957-58	PPS No. 5	June 1958	33
Do.	Summer 1958	PPS No. 8	Jan. 1959	33
Do.	Winter 1958-59	PPS No. 10	June 1959	33
Do.	Summer 1959	PPS No. 12	Jan. 1960	31
Do.	Winter 1959-60	PPS No. 15	June 1960	33
Do.	Summer 1960	PPS No. 17	Dec. 1960	34
Do.	Winter 1960-61	PPS No. 20	June 1961	34
Do.	Summer 1961	PPS No. 22	Jan. 1962	32
Do.	Winter 1961-62	PPS No. 25	June 1962	33
Do.	Summer 1962	PPS No. 27	Jan. 1963	32
Do.	Winter 1962-63	PPS No. 30	June 1963	32
Do.	Summer 1963	PPS No. 33	Jan. 1964	35
Do.	Winter 1963-64	PPS No. 35	June 1964	40
Do.	Summer 1964	PPS No. 37	Dec. 1964	40
Do.	Winter 1964-65	PPS No. 40	July 1965	38
Do.	Summer 1965	PPS No. 43	Jan. 1966	39
Do.	Winter 1965-66	PPS No. 45	June 1966	38
Do.	Summer 1966	PPS No. 48	Dec. 1966	38
Do.	Winter 1966-67	PPS No. 50	June 1967	38
Do.	Summer 1967	PPS No. 53	Dec. 1967	38
Do.	Winter 1967-68	PPS No. 55	June 1968	39
Do.	Summer 1968	This report		

4/ American Society for Testing and Materials, Tentative Specifications for Gasoline (D439-67T): 1968 Book of ASTM Standards, Part 17 (see footnote 2), pp. 178-183.

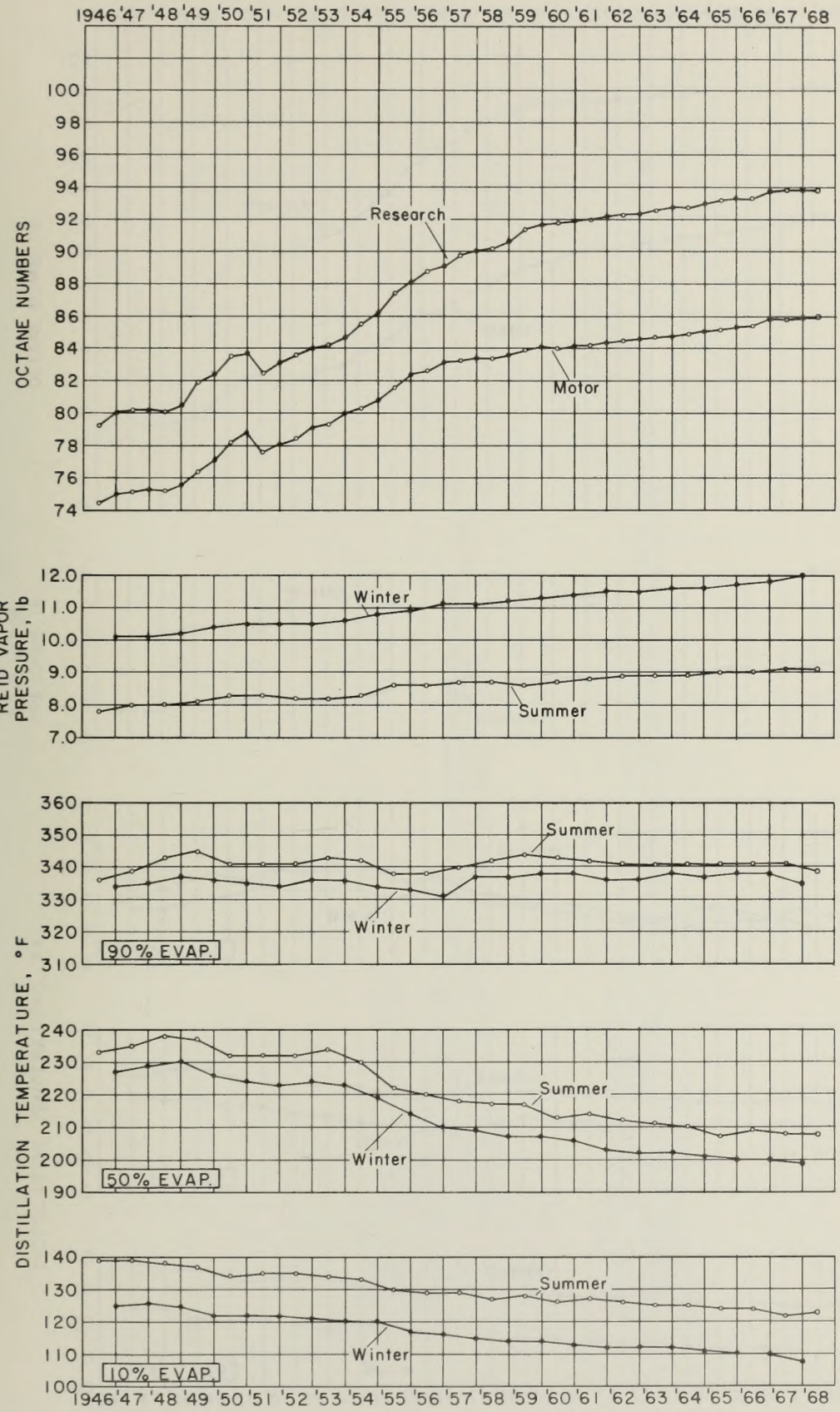
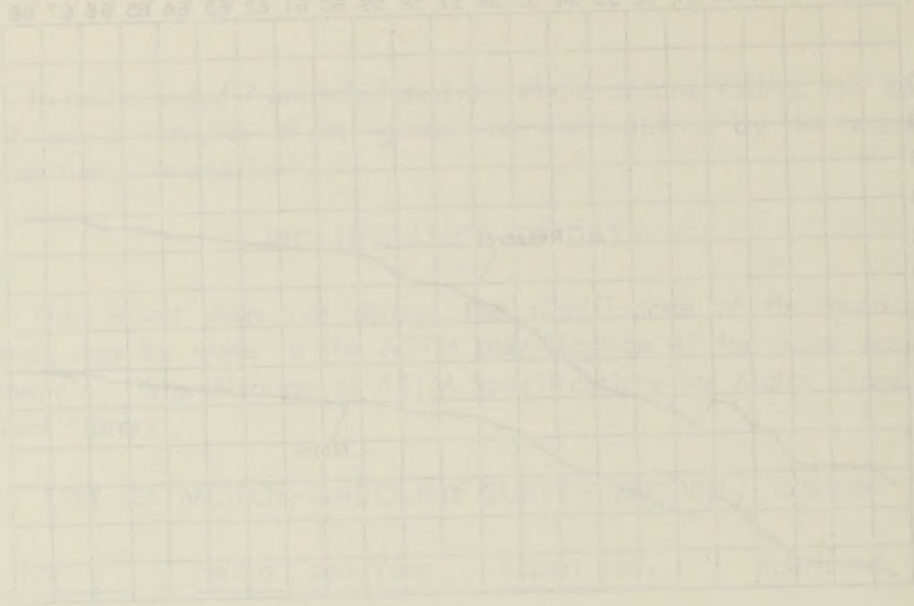


FIGURE 1.—Trends of Certain Characteristics of Regular-Price Gasolines.



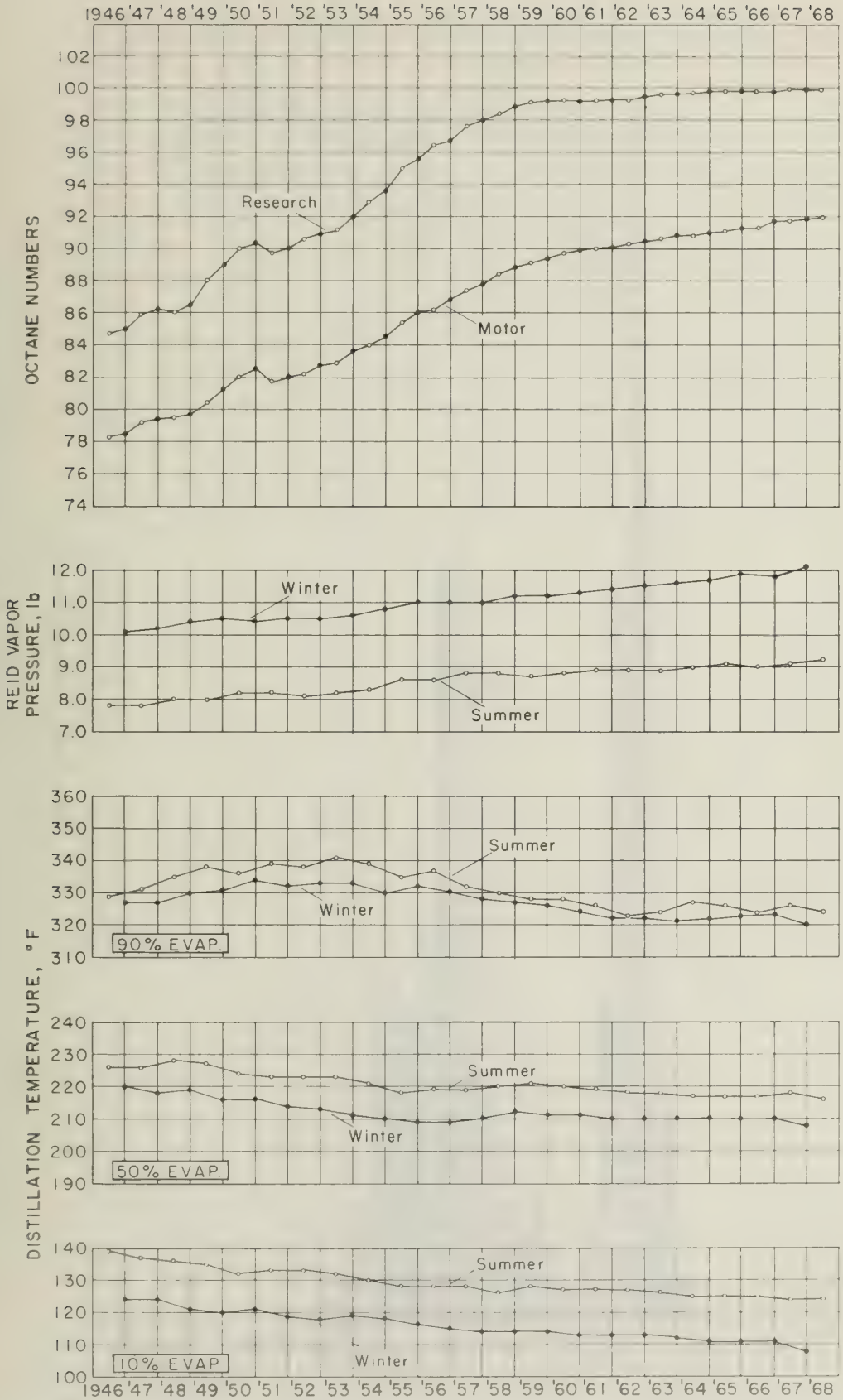


FIGURE 2.—Trends of Certain Characteristics of Premium-Price Gasolines.

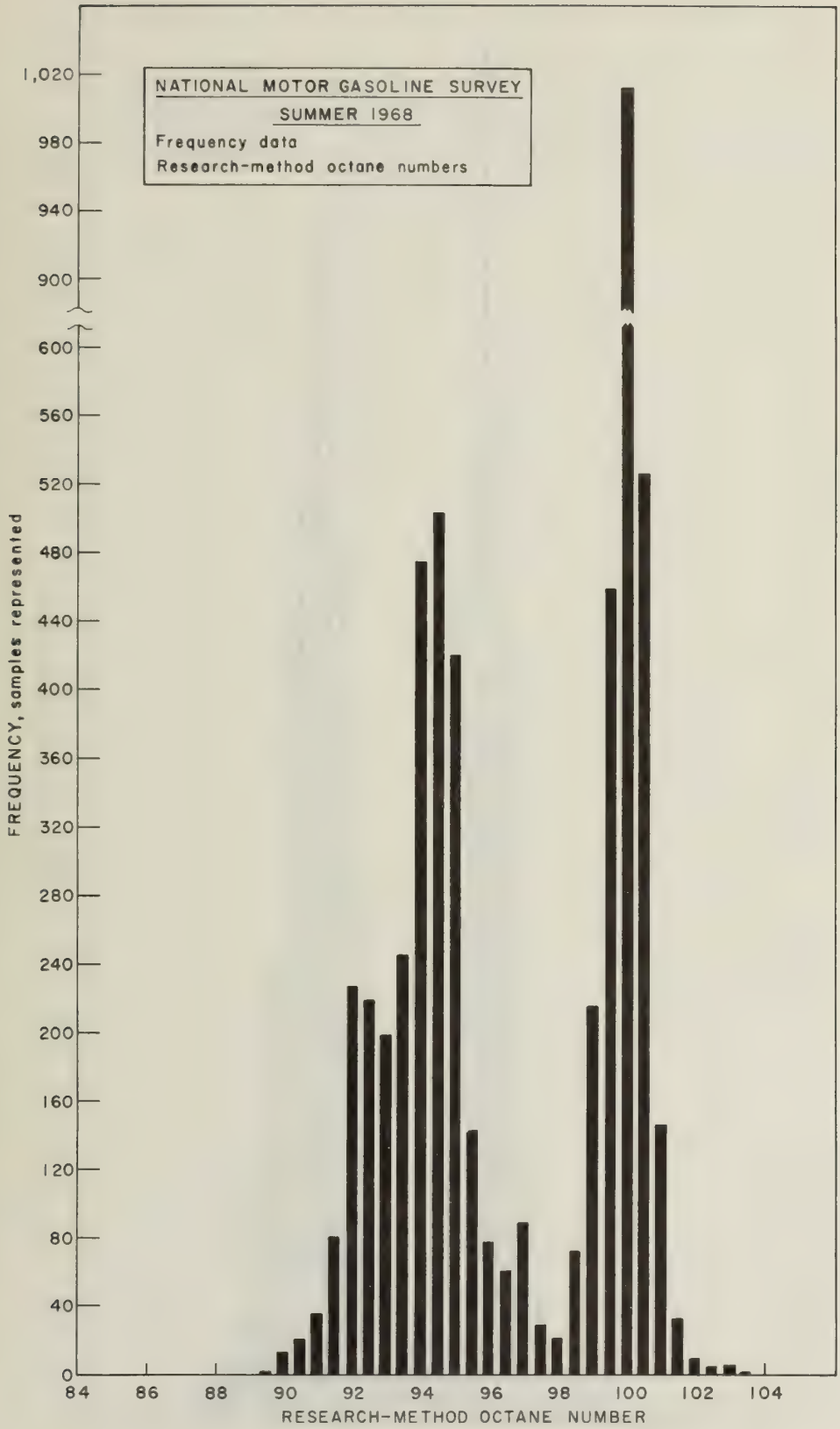


FIGURE 3.—Distribution of Research-Method Octane Numbers.

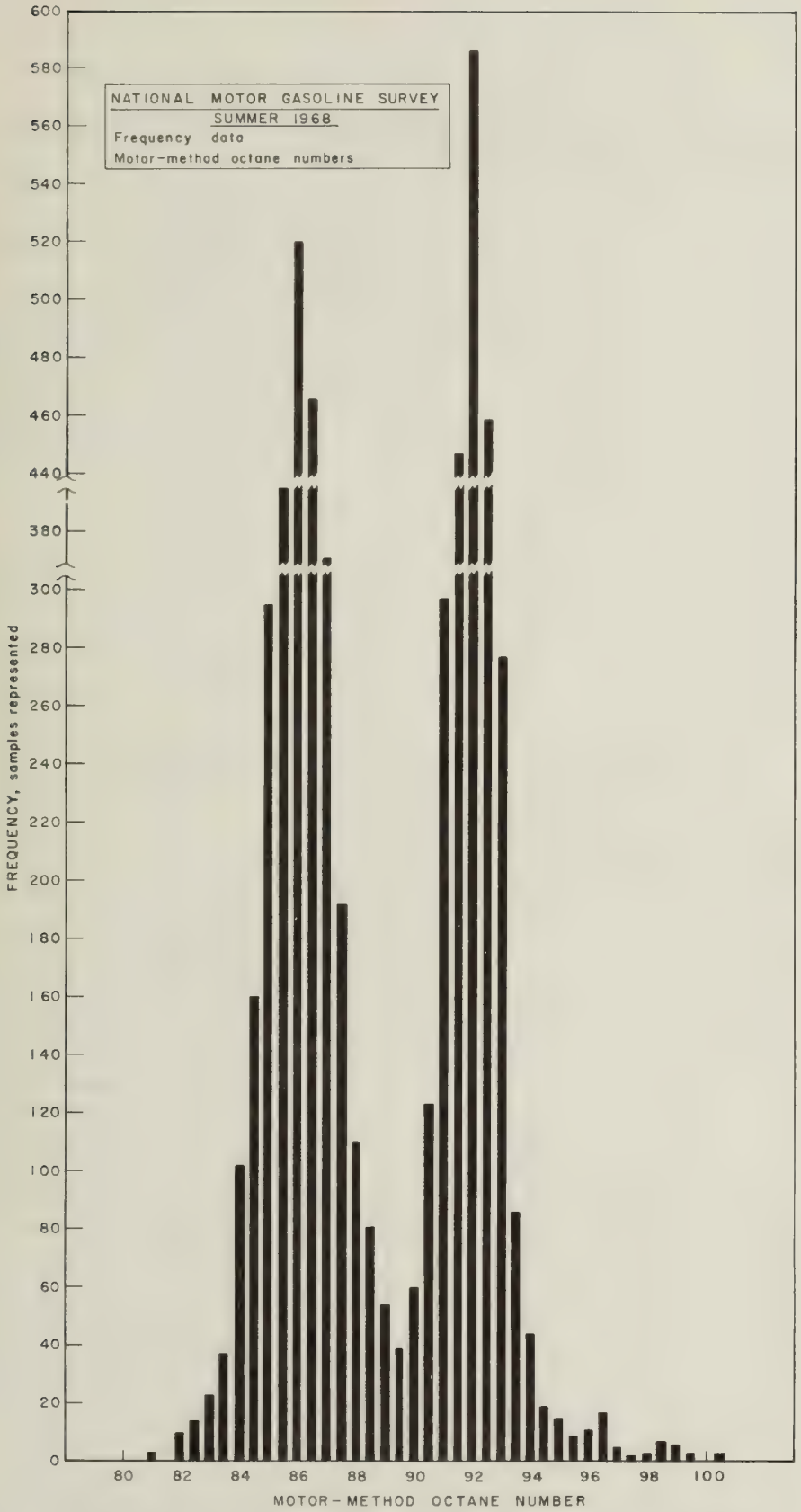


FIGURE 4.-Distribution of Motor-Method Octane Numbers.

TABLE 1. - Summary of values, motor gasoline survey, summer 1968

Test	ASTM method	Regular-price gasoline Average	Premium-price gasoline Average
Gravity, °API	D287	61.1	60.9
Corrosion, No.	D130	1	1
Sulfur content, wt percent	D1266	0.042	0.023
Gum, mg per 100 ml	D381	1	1
Lead, g per gal	D526	2.45	2.87
Octane number, Research	D908	93.8	99.9
Octane number, Motor	D357	86.0	91.9
Reid vapor pressure, lb	D323	9.1	9.2
Distillation test on evaporated basis	D86		
Initial boiling point, ° F		93	93
5 percent		110	110
10		123	124
20		143	147
30		163	171
50		208	216
70		261	257
90		339	324
95		372	355
End point		413	403
Residue, vol percent		0.9	0.9
Distillation loss		1.4	1.4

TABLE 2. - Summary of values, motor gasoline survey, summer 1967

Test	ASTM method	Regular-price gasoline Average	Premium-price gasoline Average
Gravity, °API	D287	61.0	60.9
Corrosion, No.	D130	1	1
Sulfur content, wt percent	D1266	0.048	0.025
Gum, mg per 100 ml	D381	1	1
Lead, g per gal	D526	2.43	2.89
Octane number, Research	D908	93.8	99.9
Octane number, Motor	D357	85.8	91.7
Reid vapor pressure, lb	D323	9.1	9.1
Distillation test on evaporated basis	D86		
Initial boiling point, ° F		93	92
5 percent		109	109
10		122	124
20		142	148
30		162	172
50		208	218
70		262	258
90		341	326
95		373	356
End point		414	405
Residue, vol percent		0.9	0.9
Distillation loss		1.4	1.5

District 1

TABLE 3. - Motor gasoline survey, summer 1968
(Average values of different brands)

Northeast area: Maine, Massachusetts, New Hampshire, Vermont, and northern New York

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
1	3	61.0	0.028	1	2.18	95.0	86.6	8.5	94	113	126	147	168	214	265	341	374	427	0.9	2.1
2	6	62.2	.027	1	1.57	94.8	86.2	10.9	86	99	112	132	154	204	268	337	362	395	1.0	1.7
3	4	61.5	.031	2	2.15	94.7	86.1	9.0	89	104	117	136	154	198	256	346	380	413	.8	1.7
4	1	62.1	.034	1	1.70	94.6	85.4	8.8	91	108	120	138	156	198	244	315	344	382	1.0	1.0
5	4	61.3	.067	1	3.11	95.0	87.1	9.8	87	104	117	139	159	206	256	326	371	410	.9	1.4
6	5	62.9	.029	0	2.48	94.7	87.1	9.4	92	109	120	138	158	199	254	344	372	416	.9	1.1
7	6	59.3	.088	1	2.54	94.9	86.1	9.1	91	106	121	141	163	214	277	344	375	410	1.1	1.8
8	3	59.2	.021	2	1.93	95.0	87.3	9.3	90	106	120	141	162	215	275	357	387	428	.9	1.7
9	7	61.2	.047	2	2.37	94.5	86.6	9.4	89	105	117	135	155	201	260	341	373	408	1.2	1.5
10	3	62.0	-	-	-	95.1	86.7	10.1	91	105	117	135	153	198	260	343	375	423	.9	2.1
11	1	61.6	.028	0	2.19	94.7	86.2	9.0	88	100	114	134	151	199	258	346	376	410	1.0	2.0
12	3	59.3	.067	1	2.22	95.3	85.6	7.8	93	112	126	148	169	219	278	349	378	416	.6	1.4
13	6	61.0	.044	2	2.05	95.5	85.9	9.8	88	103	118	137	158	206	272	350	374	415	1.0	1.9
14	7	60.3	.059	1	2.44	94.9	85.9	9.3	92	108	120	139	160	210	273	350	381	417	1.1	1.6
15	4	63.1	.110	2	2.52	95.7	85.4	9.3	91	108	118	133	151	196	261	343	386	429	1.0	1.1
AVERAGE		61.2	.049	1	2.25	95.0	86.3	9.3	90	106	119	138	158	205	264	342	374	413	1.0	1.6
SAMPLES	63																			

Premium-price gasoline

16	1	60.7	0.027	1	3.22	101.3	90.7	9.7	90	104	120	143	167	214	256	333	367	415	1.0	2.0
17	3	62.8	-	-	-	100.4	92.3	9.6	90	104	117	135	156	215	256	321	361	427	.9	1.7
18	7	59.6	.011	2	3.37	100.4	92.2	9.5	89	107	120	141	166	219	263	318	351	401	1.1	1.3
19	3	59.5	.010	1	2.85	100.9	92.4	9.0	91	106	121	144	167	219	262	331	366	404	1.0	1.8
20	6	62.7	.018	1	2.27	99.9	91.2	10.0	88	104	117	137	159	210	255	317	353	403	.9	1.2
21	5	58.9	.013	0	2.70	100.5	92.0	9.5	90	109	122	144	170	225	273	330	356	396	.9	1.1
22	4	58.5	.019	1	3.23	100.7	92.4	10.1	90	103	117	139	162	222	290	339	360	405	.9	1.6
23	1	55.4	.005	1	3.19	101.0	92.1	9.2	88	98	112	130	148	203	272	323	342	406	1.0	2.0
24	4	60.4	.028	1	3.04	100.9	90.9	9.5	93	108	122	146	169	216	257	336	368	411	.8	1.8
25	6	65.2	.016	1	2.96	100.3	92.6	10.3	91	106	118	138	159	208	249	310	338	376	1.0	1.1
26	3	55.7	.024	1	2.23	100.6	91.1	9.4	89	103	120	146	168	208	252	328	357	383	.9	1.1
27	4	53.6	.014	2	* .00	100.9	90.5	10.4	91	100	124	165	204	240	269	322	356	398	.9	2.2
28	6	58.4	.030	1	2.62	100.3	91.6	10.5	86	102	115	139	169	228	273	328	355	392	1.0	1.5
29	6	55.9	.033	1	1.94	101.4	91.0	10.4	87	102	118	143	171	226	271	324	348	381	1.1	1.9
30	3	58.0	.016	0	2.33	100.8	91.3	7.7	96	106	123	146	171	226	279	342	368	410	.9	1.6
AVERAGE		59.0	.019	1	2.77	100.7	91.6	9.7	90	104	119	142	167	219	265	327	356	401	1.0	1.6
SAMPLES	62																			

† Research octane numbers above 100 determined by ASTM D1656. *Not included in average for lead.

District 2

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Mid-Atlantic Coast region: Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, central and southern New York, and eastern Pennsylvania

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent	
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
31	10	60.9	0.042	1	1.87	94.8	85.5	9.8	93	111	122	140	159	204	266	354	381	415	0.7	1.5
32	12	60.1	.048	1	1.52	95.2	85.8	9.7	92	110	122	142	164	218	281	350	375	414	.8	1.6
33	3	61.1	.041	1	1.81	94.5	85.8	9.4	88	104	116	132	150	195	257	350	386	416	.5	1.5
34	1	59.3	.027	0	2.59	95.0	86.8	8.1	92	114	128	150	171	216	268	338	357	394	1.0	1.5
35	20	62.6	.098	1	2.40	96.0	85.5	9.1	96	112	122	136	151	191	257	346	379	418	1.0	1.5
36	3	60.9	.036	2	1.81	94.4	85.7	9.5	99	114	126	144	162	212	263	360	390	424	.6	1.4
37	17	60.6	.044	2	2.42	94.6	86.5	9.0	94	110	123	143	163	207	268	349	382	422	.9	1.6
38	21	61.2	.034	2	1.85	94.8	85.7	9.6	95	110	122	142	162	208	270	355	383	421	.9	1.6
39	11	62.8	.033	1	2.26	95.1	88.0	8.9	95	109	120	135	150	192	261	333	361	421	.9	2.0
40	30	59.7	.048	1	2.10	94.7	86.4	9.2	92	109	122	141	162	215	280	347	377	416	1.0	1.7
41	25	62.9	.030	1	2.53	94.6	86.9	9.3	92	110	122	139	157	200	257	343	383	414	1.2	1.4
42	7	60.4	.054	1	2.57	95.0	86.6	9.2	94	112	124	144	165	211	269	347	373	405	1.0	1.7
43	20	60.2	.072	1	1.21	96.0	85.1	9.4	94	110	122	141	161	210	276	350	371	404	.8	1.6
44	30	60.3	.046	1	2.39	94.7	86.4	9.7	92	109	123	145	167	212	267	350	385	417	1.0	1.7
45	25	60.9	.044	1	2.51	95.0	86.6	9.6	93	110	122	142	163	208	262	347	385	425	1.2	1.6
46	29	60.6	.062	1	2.36	94.6	86.2	9.4	93	109	121	139	159	206	268	349	380	420	1.1	1.5
47	32	60.7	.049	2	1.94	94.8	85.8	9.1	93	110	123	143	162	209	266	347	380	416	1.1	1.6
48	24	59.4	.024	1	1.82	95.0	87.0	9.5	93	109	121	142	164	216	277	357	389	420	1.1	1.6
49	9	60.9	.032	1	2.16	94.9	87.1	8.5	96	115	126	144	163	207	263	343	373	414	.9	1.1
AVERAGE		60.8	.045	1	2.11	94.9	86.3	9.3	93	110	122	141	161	207	267	348	378	416	.9	1.6
SAMPLES	329																			

District 2 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Mid-Atlantic Coast region: Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, central and southern New York, and eastern Pennsylvania

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
50	7	60.7	0.031	1	3.02	100.2	91.9	9.3	91	109	122	143	165	216	256	316	347	385	0.9	1.6
51	25	60.0	.018	1	2.88	100.3	92.2	9.6	92	108	122	144	167	223	271	334	362	398	1.0	1.5
52	32	62.9	.020	1	2.49	100.0	91.8	9.3	92	108	121	139	160	211	255	313	348	399	1.0	1.6
53	11	62.3	.027	1	2.88	100.2	92.2	8.9	93	107	120	136	155	210	251	318	357	416	1.0	1.9
54	21	60.1	.035	1	2.84	100.9	91.1	9.7	94	111	125	148	173	221	262	335	369	409	1.0	1.8
55	17	57.0	.021	2	2.96	100.1	91.4	9.7	93	107	122	145	171	225	272	338	363	418	.9	2.0
56	3	60.6	.013	1	3.12	100.7	91.7	9.5	94	114	130	155	180	224	273	352	380	412	.9	1.1
57	20	55.0	.010	1	* .00	101.1	90.9	9.4	92	111	130	163	197	236	264	324	348	386	.9	1.8
58	1	58.6	.014	0	2.87	100.0	92.3	9.8	88	106	118	136	153	205	261	318	356	390	1.0	1.5
59	3	61.1	.024	1	3.10	100.8	91.2	9.4	98	119	134	156	182	222	260	346	384	404	.9	1.6
60	12	61.6	.038	1	2.69	100.8	91.5	10.1	90	111	125	149	175	224	261	323	351	395	1.0	1.6
61	10	58.8	.043	1	2.52	101.0	91.1	9.8	93	109	126	153	181	230	274	336	360	396	.8	1.4
62	9	60.2	.024	0	2.87	100.5	92.5	9.3	96	114	126	145	165	217	260	321	356	405	.9	1.1
63	22	59.4	.017	1	2.66	100.2	92.0	9.6	94	112	126	147	171	222	267	338	371	415	1.1	1.2
64	32	61.3	.019	1	2.73	100.2	91.5	9.2	92	109	124	148	173	222	262	320	354	397	1.1	1.7
65	28	57.6	.023	1	2.67	99.8	91.5	9.9	91	107	121	142	168	226	274	334	363	410	1.0	1.6
66	25	60.0	.023	1	2.94	100.2	92.8	9.7	89	106	119	140	164	219	270	332	362	408	1.1	1.5
67	32	62.0	.021	1	3.19	100.5	92.2	9.6	93	109	123	144	164	209	249	312	344	387	1.0	1.6
68	20	56.1	.054	1	1.78	101.4	90.7	9.8	90	106	124	154	188	239	277	325	343	382	.9	2.1
AVERAGE		59.8	.025	1	2.79	100.5	91.7	9.6	92	110	124	147	171	221	264	328	359	401	1.0	1.6
SAMPLES	330																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

District 3

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Southeast area: North Carolina, South Carolina, Georgia, Florida, Alabama, and eastern Tennessee

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
69	1	58.5	0.021	0	2.14	95.2	87.5	9.0	88	102	120	143	167	216	268	324	351	392	1.0	2.0
70	22	60.9	.028	3	2.70	94.0	86.2	9.1	91	108	122	142	162	207	267	353	382	412	1.0	1.6
71	5	61.5	.065	0	2.86	94.9	86.6	9.7	90	104	119	140	162	211	262	340	375	416	1.0	2.1
72	14	63.1	.028	2	1.71	95.8	85.1	9.1	95	110	120	133	146	180	244	348	390	425	1.1	1.6
73	9	61.7	.026	2	2.47	94.5	86.2	9.2	92	113	125	143	162	201	251	347	384	419	1.1	1.3
74	12	60.9	.031	2	1.99	94.6	85.7	9.1	93	106	118	137	156	201	259	343	377	413	.8	1.3
75	5	59.5	.035	0	1.80	94.6	86.4	9.2	90	109	123	144	168	218	277	356	384	423	.9	1.7
76	20	62.0	.019	1	2.24	94.1	86.7	8.9	96	111	124	142	159	202	260	343	378	420	1.0	1.3
77	23	62.3	.028	1	2.65	93.8	86.5	8.8	96	113	124	142	159	201	254	340	374	408	1.0	1.4
78	34	60.8	.035	1	2.47	94.5	86.2	8.6	95	110	124	142	160	204	260	339	371	408	1.1	1.7
79	6	61.1	.032	-	2.28	94.5	86.2	8.4	95	113	124	145	164	202	255	331	365	407	.8	1.2
80	9	61.2	.032	2	2.43	94.3	86.1	8.8	95	110	123	144	163	205	257	345	379	415	.7	1.4
81	16	62.2	.026	2	2.40	94.3	86.6	8.8	93	111	124	143	161	201	254	348	383	415	1.0	1.4
82	3	61.0	.040	-	2.64	94.2	86.2	7.3	97	122	133	151	170	212	262	346	376	424	.9	1.1
83	28	60.0	.063	2	2.80	94.3	86.8	8.8	93	109	123	143	163	211	267	337	368	407	1.0	1.6
84	21	61.8	.029	1	2.77	93.8	86.8	8.7	94	110	124	142	159	203	257	343	377	410	1.1	1.6
85	21	61.0	.041	1	2.21	94.4	86.8	8.8	95	111	125	144	163	205	263	330	358	407	1.0	1.5
86	3	62.0	.036	2	2.30	94.3	86.1	9.0	97	114	125	143	161	204	263	351	385	426	.5	1.0
AVERAGE		61.2	.034	1	2.38	94.5	86.4	8.9	94	110	123	142	161	205	260	342	375	414	.9	1.5
SAMPLES	252																			

District 3 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Southeast area: North Carolina, South Carolina, Georgia, Florida, Alabama, and eastern Tennessee

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, † ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
87	3	61.6	0.012	-	3.20	100.2	91.6	9.6	90	109	120	139	160	208	245	314	337	384	0.7	1.3
88	16	59.3	.009	2	2.49	100.1	92.1	8.8	93	111	124	146	169	218	263	320	349	395	1.0	1.3
89	9	61.4	.016	1	3.15	100.4	92.0	9.3	92	108	121	141	162	211	260	323	350	395	.8	1.1
90	6	60.4	.017	-	3.01	100.1	91.9	8.8	94	109	123	147	170	216	261	317	343	387	.8	1.5
91	34	61.0	.018	1	3.08	100.3	91.9	9.0	94	111	125	149	173	219	260	314	345	390	1.1	1.4
92	23	60.0	.016	1	3.27	100.1	92.4	8.8	93	110	124	143	164	219	267	332	362	409	1.0	1.4
93	20	60.9	.015	0	2.86	100.2	92.2	8.8	94	109	122	140	157	199	249	333	363	405	1.0	1.7
94	5	59.0	.016	0	2.92	100.3	92.3	8.9	93	108	123	145	170	217	257	323	358	406	.9	2.1
95	12	59.6	.017	1	3.14	100.6	91.6	9.2	92	108	122	144	169	218	261	331	363	413	.7	1.4
96	9	61.6	.021	2	3.13	100.0	91.9	9.2	92	110	122	142	163	210	255	319	346	395	1.0	1.0
97	15	55.3	.005	2	* .00	101.1	90.8	9.8	89	106	122	154	188	232	260	318	340	372	.9	1.9
98	5	60.7	.018	0	3.12	100.7	91.9	9.7	89	101	115	137	163	235	292	339	358	406	1.0	1.9
99	24	62.4	.012	2	3.41	100.1	92.5	9.4	91	107	120	140	161	209	249	309	336	376	.9	1.5
100	1	56.5	.009	0	3.06	100.6	91.7	9.3	86	100	116	141	172	206	280	327	346	392	1.0	1.0
101	3	58.9	.018	2	3.20	100.8	91.8	9.6	97	115	130	152	175	221	263	330	362	414	.8	.7
102	21	58.7	.018	0	2.63	100.3	92.0	9.1	92	108	121	142	165	218	258	321	350	400	1.0	1.6
103	21	59.8	.020	2	2.99	100.1	92.0	8.7	93	109	123	143	164	215	261	332	362	401	1.0	1.7
104	28	63.1	.025	1	3.00	100.1	92.6	9.0	92	109	122	140	160	209	250	312	342	382	1.0	1.5
AVERAGE		60.0	.016	1	3.04	100.3	92.0	9.2	92	108	122	144	167	216	261	323	351	396	.9	1.4
SAMPLES	255																			

† Research octane numbers above 100 determined by ASTM D1656. *Not included in average for lead.

District 4

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Appalachian area: Ohio, West Virginia, western New York, western Pennsylvania, eastern Kentucky, and a small portion of Maryland

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent	
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
105	3	61.9	-	-	2.85	93.9	87.2	9.0	94	106	120	142	162	208	268	358	390	434	0.5	2.0
106	14	60.2	0.025	2	2.44	95.0	86.7	9.7	90	106	118	138	157	204	264	350	376	423	.9	1.6
107	18	60.3	.032	1	2.30	94.9	86.6	9.5	91	107	121	140	159	204	264	348	384	424	.9	1.7
108	2	62.6	-	-	2.82	93.0	88.1	9.9	95	110	122	144	168	212	258	320	348	388	.7	1.3
109	8	60.8	.030	1	2.46	94.6	86.2	9.9	94	114	127	147	167	213	270	347	382	430	.9	1.2
110	3	61.6	-	-	3.01	93.8	87.6	8.7	94	111	126	149	168	206	242	296	320	364	.6	1.9
111	11	61.8	.043	2	2.09	94.8	86.2	9.8	92	108	118	137	156	199	259	354	389	420	1.0	1.5
112	14	60.3	.018	2	2.63	94.9	87.6	9.6	90	108	123	143	165	211	264	349	382	418	.8	1.5
113	8	62.0	.015	1	2.87	94.6	87.1	9.7	92	107	119	136	153	200	256	342	378	426	.8	1.3
114	6	60.6	.018	2	2.06	94.8	87.2	10.0	89	101	115	135	158	204	257	326	354	400	.9	1.7
115	6	61.7	.029	1	2.71	94.9	86.9	10.3	90	105	120	142	163	209	267	348	381	419	1.0	1.5
116	18	60.1	.033	1	2.18	94.7	86.5	9.5	90	105	119	139	159	205	268	345	378	422	1.0	1.7
117	3	60.7	.026	2	2.35	95.1	86.8	8.8	90	107	117	141	162	206	257	342	377	430	.9	1.9
118	3	61.1	-	-	2.84	94.1	88.5	9.4	88	102	116	140	164	214	260	320	346	396	.7	2.3
119	3	62.6	.031	1	2.84	94.1	86.8	10.1	95	117	130	151	168	200	252	342	376	426	.7	1.3
120	12	60.8	.025	1	3.02	94.5	86.6	9.7	89	103	117	137	156	201	265	356	388	420	1.1	2.0
121	19	60.6	.035	2	2.37	94.7	86.0	8.8	90	108	123	144	165	211	269	347	380	415	1.0	1.6
122	9	64.0	-	-	-	95.2	87.4	10.2	90	103	114	130	147	193	256	331	360	410	1.0	1.9
123	15	61.5	.020	1	2.53	94.5	86.9	9.7	91	107	120	140	159	204	259	335	371	411	1.0	1.8
124	11	61.0	.027	2	2.95	95.0	86.5	9.1	94	111	124	143	163	208	259	339	372	407	.9	1.5
125	2	59.1	-	-	2.29	95.7	86.6	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE		61.2	.027	1	2.58	94.6	87.0	9.6	91	107	120	141	161	206	261	340	372	414	.9	1.7
SAMPLES	188																			

District 4 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Appalachian area: Ohio, West Virginia, western New York, western Pennsylvania, eastern Kentucky, and a small portion of Maryland

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
126	6	61.4	0.016	1	3.24	99.9	92.3	9.9	89	104	120	148	176	225	265	331	361	414	0.8	1.9
127	6	65.5	.010	2	2.33	100.0	92.8	9.8	93	108	124	148	172	210	240	306	339	389	.9	1.9
128	8	63.0	.027	1	3.32	99.9	92.8	8.9	96	118	134	158	184	226	262	345	385	456	1.0	1.5
129	14	60.1	.010	1	3.23	100.2	92.7	9.3	92	110	125	147	174	226	266	333	365	408	.8	1.5
130	10	54.1	.009	1	* .00	100.6	91.1	9.8	90	108	122	149	178	228	256	310	336	365	.9	1.8
131	3	59.0	-	-	3.26	100.2	92.6	8.4	90	112	126	148	171	216	258	318	338	386	.6	1.4
132	7	64.2	.017	1	2.89	100.0	92.6	10.4	89	105	120	143	166	206	238	299	334	392	.5	2.0
133	2	57.1	-	-	3.20	99.0	92.2	9.5	91	107	124	150	170	212	262	322	352	402	.6	1.4
134	19	60.8	.013	2	2.50	100.3	92.2	9.6	91	109	124	148	172	215	257	334	371	412	1.0	1.6
135	13	59.3	.011	1	2.71	100.5	92.2	9.7	91	108	125	151	177	227	270	336	370	431	1.0	2.1
136	3	57.9	-	-	3.25	100.0	92.5	10.0	92	111	126	149	171	214	262	324	354	410	.7	1.3
137	2	61.5	-	-	3.00	100.7	92.5	-	-	-	-	-	-	-	-	-	-	-	-	-
138	11	61.4	.011	1	3.12	99.9	91.9	8.7	93	110	125	149	172	217	256	330	362	401	.9	1.6
139	15	61.8	.011	1	2.73	99.7	92.9	9.9	90	108	124	148	172	212	252	326	363	408	.9	1.8
140	9	65.6	-	-	-	100.0	92.2	10.3	90	102	114	134	154	207	247	315	348	400	1.0	2.1
141	18	59.8	.014	0	2.85	100.2	91.2	9.2	90	107	123	148	174	225	265	319	347	393	1.1	1.7
142	12	62.9	.018	0	3.35	100.4	92.1	9.3	89	107	121	142	163	209	252	332	369	409	.9	1.5
143	3	61.7	.016	1	2.96	100.3	92.4	8.8	94	107	119	138	160	206	278	346	370	412	.6	1.9
144	3	57.2	-	-	3.12	100.3	92.6	9.6	86	106	120	140	158	206	256	318	346	408	.7	1.3
145	3	60.0	.002	0	2.57	100.1	92.8	9.3	90	102	116	135	158	213	268	331	359	414	1.0	2.0
146	18	64.2	.012	1	2.59	100.1	92.2	9.3	92	109	123	142	163	208	248	311	348	397	1.0	1.6
AVERAGE		60.9	.013	1	2.96	100.1	92.3	9.5	91	108	123	146	169	215	258	324	356	405	.8	1.7
SAMPLES	185																			

† Research octane numbers above 100 determined by ASTM D1656. *Not included in average for lead.

District 5

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Michigan

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
147	2	60.9	-	-	3.33	94.6	86.2	8.0	96	116	130	152	172	216	263	336	366	396	0.9	1.1
148	7	60.8	0.044	1	2.83	95.0	86.1	9.3	94	109	122	142	164	209	259	341	373	417	.8	1.3
149	5	61.5	.045	1	2.59	94.5	86.3	10.0	89	106	118	137	158	204	263	351	385	432	.8	1.2
150	1	63.4	.035	1	3.63	95.3	87.3	9.1	94	105	119	137	154	195	255	341	371	407	1.0	2.0
151	21	61.7	.033	1	3.29	94.7	86.5	9.3	92	108	121	140	160	205	259	335	366	402	.9	1.4
152	3	64.9	.030	1	2.27	94.5	86.8	9.7	90	104	114	128	142	174	235	336	376	410	.5	1.5
153	3	58.5	.107	1	3.14	95.0	85.5	10.2	92	104	118	139	160	203	248	310	336	396	.6	2.4
154	2	60.5	.044	1	2.67	94.6	86.3	-	-	-	-	-	-	-	-	-	-	-	-	-
155	3	60.6	.045	1	2.84	94.9	86.1	10.3	94	111	124	142	166	220	281	361	390	416	.8	1.2
156	11	61.4	.028	2	2.48	94.6	86.8	9.9	93	108	122	143	163	207	258	334	367	404	.9	1.5
157	1	61.5	.028	0	3.73	94.8	86.8	9.2	88	102	120	144	173	227	268	339	374	418	1.0	2.0
158	6	62.4	.039	1	3.32	95.1	87.0	10.0	97	110	123	141	161	205	267	346	378	413	.6	1.7
159	4	60.0	.089	2	3.14	94.4	86.5	10.4	90	106	120	143	167	214	266	344	378	436	.6	1.5
160	9	63.4	.022	1	2.63	94.0	87.3	10.2	90	104	118	139	160	204	251	323	352	399	.9	1.7
161	4	61.6	.037	1	2.79	94.6	87.1	10.1	92	110	124	145	166	213	267	346	379	406	1.0	1.5
162	11	61.0	.089	1	3.20	95.6	85.6	9.2	93	108	120	138	157	203	257	330	361	402	.9	1.6
163	13	61.1	.042	1	2.43	94.9	86.8	9.7	94	108	121	140	160	204	258	336	372	414	1.0	1.7
164	5	60.7	.027	1	2.73	94.8	87.6	9.7	91	108	122	145	168	214	264	348	380	414	.8	1.5
AVERAGE		61.4	.046	1	2.95	94.8	86.6	9.7	92	107	121	141	162	207	260	339	371	411	.8	1.6
SAMPLES	111																			

District 5 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Michigan

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
165	3	66.1	0.034	1	2.79	100.2	93.2	9.7	94	120	138	164	188	222	250	338	370	410	0.7	1.3
166	2	63.8	.011	1	2.62	100.4	92.1	-	-	-	-	-	-	-	-	-	-	-	-	-
167	3	60.7	.040	1	2.95	99.1	91.9	10.5	94	111	125	148	169	214	259	324	352	404	.8	2.2
168	4	59.7	.022	2	3.15	100.0	92.5	9.5	90	107	119	140	163	209	258	327	365	407	.6	1.4
169	22	57.2	.019	1	3.03	99.5	91.5	9.5	93	108	126	154	181	220	255	315	348	407	1.0	2.1
170	1	60.2	.030	2	3.65	100.2	91.1	9.5	89	103	121	147	174	231	269	335	373	415	1.0	2.0
171	5	60.8	.018	1	2.42	99.6	91.8	10.1	88	107	123	150	179	223	260	327	363	415	.8	1.5
172	7	61.9	.027	1	2.84	100.3	91.8	9.1	94	113	129	153	178	221	256	333	368	406	.8	1.2
173	2	62.9	-	-	3.31	100.8	92.8	8.2	90	110	128	157	184	218	244	334	370	400	.6	1.4
174	5	60.6	.015	1	3.33	100.1	92.6	9.6	90	107	120	142	167	222	261	328	361	408	.8	1.4
175	13	59.4	.027	1	2.14	100.3	92.2	10.1	92	107	123	152	179	222	257	322	359	407	1.0	2.0
176	11	62.4	.059	2	2.95	99.7	91.9	9.4	92	107	119	138	158	200	240	308	341	389	.9	1.5
177	4	62.7	.031	0	2.66	99.7	92.3	10.4	93	112	130	155	180	225	265	324	355	403	.9	1.7
178	8	62.7	.024	1	2.82	99.1	92.8	10.6	89	102	117	140	165	209	248	315	345	386	.9	2.1
179	4	64.0	.051	2	2.81	100.2	91.5	10.3	88	105	120	142	166	210	249	326	366	412	.6	1.7
180	6	62.3	.027	1	3.50	100.2	92.3	9.7	94	117	130	153	181	231	266	336	377	424	.6	1.5
181	1	63.1	.024	1	3.71	99.9	91.5	8.8	98	113	125	141	158	198	255	349	382	400	1.0	1.0
182	11	65.8	.021	1	2.59	100.0	92.9	10.1	91	106	122	146	172	212	244	311	347	397	.8	1.9
AVERAGE		62.0	.028	1	2.96	100.0	92.2	9.7	92	109	124	148	173	217	255	327	361	405	.8	1.6
SAMPLES	112																			

† Research octane numbers above 100 determined by ASTM D1656.

District 6

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

North Illinois area: Northern Indiana, northern Illinois, eastern Iowa, and Wisconsin

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid	Percent: Loss
183	6	61.6	0.038	1	2.22	95.1	87.4	9.1	94	112	123	141	158	200	251	334	363	411	0.8	1.2
184	13	62.4	.035	1	2.07	95.0	86.2	9.5	92	106	117	135	154	205	260	336	367	411	1.0	1.4
185	17	60.7	.062	1	2.87	95.4	86.1	9.4	93	110	122	142	162	207	261	338	368	407	1.0	1.5
186	3	61.4	.076	0	3.38	94.5	87.0	8.8	90	112	126	146	166	208	254	332	366	410	.9	.6
187	15	61.1	.024	1	3.20	94.6	86.8	9.0	92	108	121	141	160	207	263	337	367	407	1.0	1.1
188	13	61.6	.014	0	2.30	93.9	86.7	9.5	92	108	120	138	157	200	254	327	356	397	.9	1.3
189	4	61.8	.010	1	2.29	94.8	87.6	9.9	91	102	117	139	161	208	257	335	368	408	1.1	1.9
190	4	61.5	.027	1	3.03	95.2	87.8	9.9	88	101	114	131	149	197	260	336	365	410	1.0	1.6
191	7	61.2	.061	2	2.66	95.0	86.5	9.3	90	106	120	142	164	210	264	341	373	411	1.0	1.4
192	6	61.3	.033	1	2.55	94.3	86.9	9.0	90	108	121	141	164	209	261	338	368	409	1.0	1.2
193	7	59.9	.050	4	2.91	94.6	86.4	9.4	93	109	124	145	165	211	262	335	367	409	.9	1.7
194	4	61.2	.036	2	2.69	95.1	87.5	9.1	90	105	119	139	159	206	260	335	366	414	1.0	1.3
195	8	60.4	.063	2	2.49	94.9	86.7	9.6	89	106	120	140	161	207	260	337	370	415	1.0	1.4
196	7	61.1	.056	1	2.75	94.5	86.5	9.7	91	106	119	137	157	202	261	347	382	421	1.0	1.5
197	6	63.7	.052	1	2.16	94.2	86.3	9.5	92	109	120	136	152	189	246	345	379	419	1.0	1.0
198	7	60.9	.064	1	2.66	95.1	86.2	9.2	91	106	120	139	161	208	264	338	368	409	.9	1.4
199	13	61.4	.033	1	2.46	94.7	87.3	9.3	93	108	121	139	158	204	257	329	363	412	1.0	1.4
AVERAGE		61.4	.043	1	2.63	94.8	86.8	9.4	91	107	120	139	159	205	259	336	368	411	1.0	1.3
SAMPLES	140																			

District 6 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

North Illinois area: Northern Indiana, northern Illinois, eastern Iowa, and Wisconsin

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D 86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									Percent evaporated									End point	Resid	Loss
									IBP	5	10	20	30	50	70	90	95			
200	6	60.6	0.013	1	2.90	99.1	91.5	9.5	88	107	122	148	173	220	260	332	362	410	0.9	1.4
201	7	61.2	.024	1	2.78	100.3	91.9	9.6	89	107	124	148	176	220	258	328	360	403	.9	1.1
202	4	62.2	.003	1	3.44	99.8	92.9	9.8	92	109	122	143	168	217	252	315	341	390	1.0	1.3
203	3	61.6	.004	0	3.12	100.1	92.7	9.7	91	105	120	142	165	219	261	325	355	401	1.0	1.8
204	13	61.7	.014	1	2.88	99.0	92.7	9.9	91	106	122	148	175	217	255	321	351	397	.9	1.7
205	15	57.0	.013	0	2.99	99.4	91.5	9.1	93	112	129	157	182	221	255	316	350	412	1.0	1.5
206	3	62.4	.044	2	2.98	99.8	92.8	9.9	86	100	118	146	174	218	246	306	344	410	.8	2.2
207	17	61.3	.014	1	3.03	99.8	92.3	9.0	93	110	122	143	163	209	250	315	345	396	1.1	1.2
208	1	62.9	.010	1	2.80	99.1	92.0	9.6	93	104	116	132	152	197	249	320	345	401	1.0	1.5
209	13	64.9	.015	1	2.88	99.8	92.6	9.5	92	107	120	140	164	213	251	325	358	406	1.0	1.6
210	6	62.4	.027	1	2.85	99.8	92.2	9.1	90	108	122	142	163	205	247	316	349	407	.9	1.4
211	13	59.4	.022	2	2.17	100.2	92.6	9.6	91	108	127	158	189	225	255	321	357	407	1.0	1.8
212	7	58.8	.022	1	2.82	100.4	92.4	9.2	91	104	120	152	183	229	268	329	356	410	.9	1.6
213	9	59.0	.006	0	3.14	99.8	92.7	9.5	91	106	121	145	169	216	261	330	363	412	1.0	1.2
214	7	60.4	.002	0	2.77	99.4	92.1	10.1	91	106	122	150	177	225	260	326	358	411	1.0	1.7
215	8	63.2	.023	1	2.80	100.1	92.4	9.7	90	105	118	141	165	209	247	323	353	406	.9	1.6
216	4	62.0	.015	1	3.21	99.9	92.7	9.1	92	107	121	142	164	209	249	311	341	393	1.0	1.5
217	7	62.6	.040	6	3.09	100.0	92.1	9.8	91	106	122	143	166	209	247	323	359	406	.9	1.7
AVERAGE		61.3	.017	1	2.93	99.8	92.3	9.5	91	107	122	146	170	215	254	321	353	404	1.0	1.5
SAMPLES	143																			

District 7

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Central Mississippi area: Western Kentucky, southern Indiana, southern Illinois, and eastern Missouri

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent	
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
218	3	59.9	0.012	1	2.47	94.1	86.6	8.8	94	110	128	150	175	223	274	351	390	421	0.9	1.6
219	11	60.6	.078	2	2.94	95.1	86.3	8.9	90	107	118	138	157	201	255	342	376	411	1.0	1.8
220	11	60.6	.032	1	2.37	94.8	86.8	8.9	93	113	124	143	162	206	257	342	379	414	.9	1.1
221	7	61.0	-	-	3.08	94.6	86.5	8.7	95	114	126	145	164	206	259	348	389	429	.9	1.2
222	3	60.9	.019	1	2.45	94.7	86.3	8.6	96	116	132	155	176	215	253	318	348	406	.7	1.3
223	2	63.0	.012	1	3.15	94.8	88.0	-	-	-	-	-	-	-	-	-	-	-	-	-
224	3	61.0	.022	1	2.79	93.8	86.9	9.2	93	115	129	150	171	213	260	344	389	425	.6	.9
225	4	60.3	.105	3	2.96	94.9	85.4	9.3	93	110	123	144	165	218	278	359	388	416	.9	1.1
226	6	61.9	-	-	2.23	95.3	86.1	8.9	92	109	120	139	160	215	270	343	370	416	.9	1.6
227	3	60.8	.020	1	2.57	95.3	87.6	9.7	90	104	116	136	160	212	264	344	376	404	.7	1.8
228	3	62.6	-	-	2.70	94.7	88.4	9.2	89	109	119	137	156	202	252	340	378	428	1.0	1.0
229	3	62.2	-	-	2.75	93.9	87.3	9.4	88	110	122	144	166	214	262	326	348	386	1.0	1.0
230	11	60.8	.048	1	2.60	94.4	87.2	8.9	91	114	125	142	162	207	263	338	371	410	1.0	1.1
231	12	60.0	.035	2	3.49	94.5	86.1	8.8	92	113	126	148	169	215	276	354	381	407	.9	1.2
232	6	62.5	.034	2	2.73	94.3	86.9	9.4	96	114	126	145	164	209	262	345	386	427	.9	1.4
233	2	61.0	.032	1	3.42	94.0	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-
234	6	61.8	.059	2	3.00	94.8	86.9	9.2	96	114	126	144	163	207	263	349	384	426	.7	1.3
235	3	61.6	-	-	2.83	94.2	86.5	9.2	90	112	122	138	156	206	260	340	372	415	1.1	1.4
236	3	61.1	.026	1	2.88	94.9	86.4	8.9	95	112	124	142	160	212	272	352	386	426	.7	1.3
237	4	60.9	.038	1	1.97	94.1	86.0	9.0	97	119	133	154	176	221	272	346	381	427	.7	.8
AVERAGE		61.2	.038	1	2.77	94.6	86.8	9.1	93	112	124	144	165	211	264	343	377	416	.9	1.3
SAMPLES	106																			

District 7 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Central Mississippi area: Western Kentucky, southern Indiana, Southern Illinois, and eastern Missouri

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
238	3	58.1	-	-	2.96	99.8	92.6	9.3	88	110	126	156	184	228	262	330	358	408	1.1	0.9
239	3	60.3	0.017	2	3.37	100.4	92.5	9.9	95	112	126	148	175	224	262	324	360	405	.6	.9
240	6	67.8	-	-	3.10	100.1	93.4	8.9	91	110	122	139	158	206	242	317	353	402	.9	1.6
241	4	60.3	.019	2	3.36	100.0	93.1	9.9	93	111	124	145	167	211	257	332	352	392	.9	1.4
242	3	61.7	.011	1	2.71	100.4	92.1	8.4	96	115	125	142	158	202	254	339	366	414	.7	.8
243	3	63.6	.007	1	3.50	100.2	92.7	9.5	100	118	132	154	177	218	256	317	352	396	.6	1.4
244	2	59.7	.013	1	3.60	100.4	92.4	-	-	-	-	-	-	-	-	-	-	-	-	-
245	3	65.6	.015	2	2.83	99.7	92.6	9.0	97	116	132	156	176	212	238	309	348	399	1.0	1.0
246	7	59.7	-	-	3.12	99.8	92.2	8.7	92	112	128	150	171	213	251	326	359	405	.9	1.3
247	11	58.7	.025	1	2.39	100.3	92.4	9.2	92	113	131	158	184	223	260	326	361	405	.9	1.4
248	11	61.0	.018	1	3.02	100.2	91.6	9.1	92	109	122	145	168	211	248	313	344	384	1.0	1.4
249	3	58.1	.023	2	3.41	100.2	91.6	9.1	94	112	125	146	164	208	266	344	370	440	.7	1.3
250	5	60.9	.028	3	3.02	100.0	91.4	8.8	96	112	129	154	179	226	268	343	381	426	1.0	1.5
251	3	64.1	-	-	2.86	99.2	92.7	8.7	90	114	126	150	175	212	246	330	362	412	1.1	.9
252	6	63.8	.024	1	3.22	100.0	92.6	10.0	93	112	126	147	170	211	245	325	366	403	.6	1.4
253	2	62.7	.017	1	3.44	100.2	92.5	-	-	-	-	-	-	-	-	-	-	-	-	-
254	5	64.2	.018	1	3.31	100.3	92.9	9.1	97	113	125	145	166	211	247	315	347	390	.8	1.3
255	12	58.8	.013	1	3.41	99.8	91.5	8.8	88	107	123	147	170	212	251	301	326	370	.9	1.5
256	11	62.5	.017	1	2.88	99.8	92.9	9.2	91	110	125	146	169	209	241	305	339	385	.9	1.2
257	3	59.4	-	-	3.15	99.0	92.5	9.9	86	108	124	156	184	226	260	320	344	384	1.0	1.5
AVERAGE		61.6	.018	1	3.13	100.0	92.4	9.2	93	112	126	149	172	215	253	323	355	401	.9	1.3
SAMPLES	106																			

District 8

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Lower Mississippi area: Mississippi, Louisiana, eastern and southern Arkansas, and western Tennessee

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
258	3	61.1	0.050	-	2.55	94.3	85.6	9.0	95	111	123	143	163	210	264	344	375	415	1.1	0.9
259	12	60.7	.042	1	2.70	94.0	86.4	9.1	97	114	126	147	167	209	267	359	386	417	.9	1.1
260	15	62.0	.025	0	2.18	94.4	86.2	9.1	94	111	123	141	160	201	255	349	382	412	1.0	1.1
261	9	62.4	.031	1	2.92	93.9	87.3	8.8	93	109	122	140	158	200	254	342	377	424	1.0	1.1
262	6	60.7	.038	3	2.66	94.1	86.4	8.9	94	113	126	146	166	209	269	361	392	424	.9	1.0
263	3	63.2	.008	0	3.25	94.2	89.0	8.8	98	114	122	135	147	174	216	280	315	360	1.0	1.0
264	12	60.6	.059	1	2.39	93.9	85.8	8.2	95	113	125	145	164	204	260	342	378	420	.9	1.1
265	16	60.0	.034	1	2.29	94.4	86.8	8.6	94	110	121	139	159	205	262	332	361	410	.9	1.0
266	9	60.9	.020	0	3.22	93.3	86.9	9.1	93	111	124	148	170	217	267	339	370	404	1.0	.9
267	18	60.9	.028	1	2.54	93.7	86.3	9.5	92	107	120	141	163	210	272	358	384	412	1.0	1.4
268	17	61.3	.045	1	2.98	94.4	86.0	8.6	96	111	124	143	162	203	255	323	353	396	1.0	1.4
269	6	61.0	.018	1	2.75	93.2	86.5	9.1	92	109	123	145	168	213	259	343	372	410	1.0	1.3
270	3	62.0	-	2	2.74	93.8	86.7	9.3	91	114	126	146	166	205	247	340	386	426	1.0	1.0
271	3	60.5	-	-	-	93.9	84.8	8.5	93	109	124	144	164	214	273	350	380	434	.9	1.8
272	5	61.1	-	-	1.98	94.6	85.9	8.7	95	108	123	143	162	200	252	345	376	407	.9	1.6
273	6	60.9	.032	1	2.68	94.0	85.9	8.6	95	116	128	147	166	207	260	354	390	421	.9	1.2
274	16	63.2	.079	2	2.30	95.2	85.1	8.9	96	112	121	134	146	177	238	340	376	413	1.2	1.3
275	6	61.1	.048	0	2.45	93.7	85.1	8.8	97	112	121	139	158	206	262	342	372	424	1.0	1.1
276	9	62.0	.038	1	2.48	94.5	86.9	8.5	93	109	123	145	167	211	260	339	374	422	1.0	1.2
AVERAGE		61.3	.037	1	2.61	94.1	86.3	8.8	94	111	123	143	162	204	257	341	374	413	1.0	1.2
SAMPLES	174																			

District 8 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968 --Continued
(Average values of different brands)

Lower Mississippi area: Mississippi, Louisiana, eastern and southern Arkansas, and western Tennessee

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, † ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
277	6	60.0	0.015	2	3.21	99.8	91.0	8.9	89	112	124	144	166	216	267	333	359	400	0.8	0.7
278	18	59.9	.013	3	3.29	100.1	92.3	8.6	93	111	126	150	175	223	265	317	343	393	1.0	1.1
279	18	63.0	.017	1	3.22	100.0	92.6	9.6	91	107	121	142	164	214	257	311	337	384	1.0	1.2
280	9	61.1	.017	2	3.53	99.9	92.1	9.2	93	109	122	143	167	216	272	337	361	406	1.0	1.3
281	16	61.6	.013	1	2.76	99.8	93.1	8.9	93	109	121	140	159	207	249	308	336	391	.9	1.2
282	12	59.8	.036	0	3.07	99.9	92.2	8.6	93	111	125	148	173	220	260	332	365	415	.9	1.2
283	3	61.4	.008	1	4.14	99.7	94.1	9.9	88	104	113	128	143	186	256	318	338	386	.9	1.1
284	6	60.0	.009	2	3.22	100.1	92.1	8.5	95	114	125	145	169	222	268	326	355	408	1.1	1.2
285	9	63.3	.028	1	3.17	99.7	92.4	8.8	94	110	123	142	162	207	249	317	348	406	1.0	1.0
286	15	59.9	.009	1	2.65	100.0	92.3	8.8	93	113	126	149	173	221	262	319	345	396	.9	1.1
287	12	63.5	.037	1	3.20	100.0	92.2	8.9	97	114	127	149	171	217	257	324	353	400	1.0	1.3
288	3	62.8	.041	-	3.05	100.1	92.4	8.6	93	113	128	154	180	222	260	340	375	423	.9	1.1
289	9	63.8	.029	1	3.10	100.0	93.2	8.6	96	118	130	154	177	217	252	331	366	413	1.0	.9
290	6	62.6	.045	1	2.96	100.1	92.2	8.8	97	112	127	152	179	221	255	342	378	424	1.0	1.4
291	17	55.8	.004	1	* .00	100.8	90.7	9.2	89	108	123	153	188	238	263	319	341	388	.9	1.4
292	6	59.7	.012	1	2.96	100.1	92.3	8.8	91	108	123	146	170	216	257	314	342	389	.9	1.1
293	5	59.1	.006	1	2.25	99.9	91.6	8.8	98	113	127	149	172	220	262	319	347	393	1.1	1.4
294	3	63.4	-	-	-	100.0	91.4	8.9	93	108	125	152	178	223	258	341	374	424	1.0	2.1
295	3	60.4	-	2	2.88	100.1	92.0	9.0	91	113	124	141	158	197	250	344	366	414	1.1	.9
AVERAGE		61.1	.020	1	3.10	100.0	92.2	8.9	93	111	124	146	170	216	259	326	354	403	1.0	1.2
SAMPLES	176																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

District 9

TABLE 3. - Motor gasoline survey, summer 1968 --Continued
(Average values of different brands)

North Plains area: Minnesota, North Dakota, and South Dakota

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
296	6	61.5	0.029	2	2.35	92.7	85.0	9.2	93	112	123	143	164	207	256	340	374	422	0.9	1.6
297	5	60.1	.090	1	2.05	92.8	84.2	9.7	94	109	121	142	163	213	275	353	378	415	1.0	1.6
298	3	62.7	.036	0	2.27	92.4	84.6	9.1	88	111	122	140	160	202	253	338	374	425	1.0	1.0
299	3	59.5	.060	3	2.09	93.1	84.8	9.1	88	108	120	140	158	212	274	354	382	424	1.2	.8
300	4	59.0	.094	1	2.01	92.3	83.9	9.6	90	105	119	142	168	222	282	355	379	418	1.0	1.3
301	2	62.1	.068	-	2.34	93.2	85.5	-	-	-	-	-	-	-	-	-	-	-	-	-
302	4	61.1	.040	2	1.43	92.4	85.3	9.6	93	107	123	146	168	213	265	338	374	412	1.0	2.3
303	3	59.5	.098	1	2.10	92.3	84.1	10.2	86	100	116	140	166	224	284	356	382	416	1.1	1.4
304	3	62.7	-	0	2.20	92.6	85.2	9.0	92	111	126	148	169	208	249	307	332	384	.9	1.1
305	1	60.6	.048	1	2.37	91.5	85.4	8.6	92	106	122	142	163	208	257	330	363	412	1.0	2.0
306	10	62.1	.032	1	2.64	92.3	84.3	8.9	95	111	124	145	165	210	262	337	370	412	1.0	1.4
307	3	60.8	.039	1	1.99	92.8	84.8	9.1	89	106	120	138	157	199	250	323	352	398	1.1	1.5
308	12	62.8	.020	2	2.23	92.4	85.3	9.4	94	109	124	145	167	208	249	317	352	399	.9	1.7
309	7	61.6	.043	0	2.34	92.3	84.5	8.8	92	109	123	142	160	203	254	333	366	419	.8	1.3
310	8	63.2	.033	1	1.46	92.4	84.6	8.6	95	111	122	139	157	199	248	327	364	415	.9	1.6
311	10	59.5	.069	0	2.25	92.4	83.9	8.8	96	112	126	149	172	224	281	361	389	426	1.0	1.5
AVERAGE		61.2	.053	1	2.13	92.5	84.7	9.2	92	108	122	143	164	210	263	338	369	413	1.0	1.5
SAMPLES	84																			

Premium-price gasoline

312	3	63.9	0.065	1	2.91	100.2	92.7	10.1	91	107	119	147	177	216	247	320	360	412	0.5	2.5
313	3	62.4	.037	-	2.01	99.4	92.1	10.6	93	107	124	149	172	217	240	310	364	405	1.0	2.0
314	2	67.1	.066	-	2.89	99.7	92.9	-	-	-	-	-	-	-	-	-	-	-	-	-
315	4	63.3	.061	1	3.05	99.3	91.4	9.7	85	101	117	143	172	220	256	325	353	409	1.0	1.8
316	3	65.0	.071	1	2.85	99.5	91.8	9.5	86	104	118	144	172	216	248	312	342	396	1.0	1.5
317	3	63.5	.018	0	2.36	99.1	92.0	9.1	91	112	125	146	168	210	246	330	368	424	1.1	.9
318	5	62.2	.058	4	2.80	99.2	91.8	9.6	93	108	125	152	179	221	251	325	363	405	.9	2.1
319	6	63.5	.026	1	2.65	98.9	92.0	9.0	91	110	125	148	173	218	257	329	362	414	.7	1.3
320	10	63.9	.062	0	2.67	99.2	91.2	8.5	95	116	132	157	181	220	253	330	371	413	1.0	1.3
321	8	62.7	.016	1	2.47	99.1	91.8	9.1	92	109	124	148	172	222	263	326	357	413	.9	1.6
322	7	64.0	.010	1	2.53	99.1	92.0	9.0	91	108	122	145	169	210	244	324	363	414	.9	1.4
323	13	65.4	.011	1	2.12	99.1	91.6	9.3	93	107	121	141	164	209	249	321	358	406	1.0	1.6
324	3	66.7	.071	0	2.60	99.8	92.2	8.7	93	111	129	155	177	209	234	323	367	406	.8	1.7
325	11	61.3	.010	0	2.85	98.9	90.7	9.3	92	109	125	150	175	218	252	318	353	406	1.0	1.8
326	1	59.9	.002	1	2.25	99.8	92.2	9.5	88	101	116	136	156	202	252	322	346	384	1.0	2.0
327	3	66.1	-	0	2.01	99.1	92.2	9.1	92	109	122	142	162	203	243	315	339	406	1.0	1.0
AVERAGE		63.8	.039	1	2.56	99.3	91.9	9.3	91	108	123	147	171	214	249	322	358	408	.9	1.6
SAMPLES	85																			

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Central Plains area: Nebraska, central and western Iowa, northwestern Missouri, and northern Kansas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D 86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)									End point	Percent
									IBP	Percent evaporated 5	10	20	30	50	70	90	95		Resid	Loss
328	1	60.3	0.030	2	2.50	90.7	84.9	5.8	104	126	136	158	176	214	260	338	374	420	0.8	1.2
329	13	62.4	.040	2	2.21	92.3	85.3	9.1	94	110	123	141	158	198	253	343	379	428	.8	1.6
330	4	62.7	-	2	1.92	93.2	85.5	9.0	94	110	122	140	158	202	250	332	364	410	.8	.7
331	10	61.5	.040	1	2.60	91.8	84.8	8.8	97	114	126	145	165	209	261	343	386	425	.9	1.3
332	5	62.0	.026	2	2.45	92.1	85.8	8.5	94	119	132	152	173	215	267	336	371	417	1.0	1.0
333	10	62.0	.027	1	2.24	92.9	85.9	8.4	98	116	129	147	166	209	261	342	381	420	1.0	.9
334	18	62.3	.043	1	1.74	92.5	85.1	7.4	100	119	130	146	162	205	253	328	366	410	.9	1.2
335	9	62.2	.036	3	1.99	92.2	84.6	9.1	94	112	122	140	159	203	257	338	373	421	.9	1.1
336	21	60.2	.070	2	2.79	93.4	85.2	8.2	98	117	130	150	168	209	262	340	374	415	1.0	1.2
337	3	62.7	-	1	1.59	93.4	85.1	9.2	96	113	124	143	164	208	256	346	388	420	.5	1.0
338	6	62.3	.036	0	2.41	92.0	85.2	9.5	93	110	121	140	159	201	253	337	368	413	.9	1.1
339	13	61.6	.037	1	2.41	92.6	85.8	9.1	95	111	124	142	163	211	271	358	391	423	1.0	1.3
340	1	58.9	.020	3	1.20	92.6	81.2	7.5	92	118	132	146	176	229	292	382	432	476	1.2	1.8
AVERAGE		61.6	.037	2	2.16	92.4	85.0	8.4	96	115	127	145	165	209	261	343	381	423	.9	1.2
SAMPLES	114																			

Premium-price gasoline

341	11	63.2	0.026	1	2.58	98.7	91.6	8.8	95	115	128	150	172	214	253	334	374	420	1.2	1.0
342	5	65.8	.031	1	2.87	98.8	92.5	8.2	94	120	133	155	178	214	248	325	369	419	.9	1.1
343	10	63.5	.017	1	2.73	99.0	92.1	9.3	94	113	128	152	176	215	247	303	332	367	1.1	1.4
344	4	64.3	-	1	2.04	99.4	92.1	8.6	92	113	126	147	171	213	247	326	361	414	1.0	1.0
345	13	62.7	.026	1	2.84	99.4	92.2	9.4	92	108	122	144	167	213	257	332	360	401	.9	1.4
346	1	58.2	.030	1	2.50	97.2	89.0	5.7	98	124	136	159	182	230	276	332	360	420	.6	.9
347	1	54.4	.040	1	3.70	97.8	86.8	7.5	92	122	138	170	200	253	300	368	402	444	.8	1.2
348	13	60.8	.018	0	2.70	98.8	92.4	8.7	95	114	129	154	178	218	259	323	352	389	1.0	1.3
349	6	64.5	.023	1	2.81	99.2	92.6	8.9	91	104	121	144	166	208	246	326	361	417	1.0	1.1
350	3	65.4	-	0	2.28	99.2	91.9	8.3	92	108	124	148	168	208	242	320	354	412	.8	1.2
351	20	59.5	.025	1	2.87	99.6	92.2	8.2	96	116	130	154	178	220	258	322	355	409	1.0	1.0
352	9	64.7	.025	1	2.55	99.3	91.9	8.9	92	111	124	146	166	208	243	326	364	417	.8	1.0
353	18	65.9	.034	1	2.23	99.1	92.1	8.2	96	114	127	146	169	212	249	327	367	414	1.0	1.2
AVERAGE		62.5	.027	1	2.67	98.9	91.5	8.4	94	114	128	151	175	217	256	328	362	411	.9	1.1
SAMPLES	114																			

District 11

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

South Plains area: Southern Kansas, southwestern Missouri, western Arkansas, Oklahoma, and northern Texas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent	
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
354	3	63.5	-	0	2.42	92.9	86.1	9.5	89	106	119	140	160	198	244	330	370	416	1.0	1.5
355	10	62.7	0.054	1	2.75	92.7	86.1	8.5	96	113	124	140	157	196	249	341	376	417	1.0	1.2
356	17	62.3	.032	0	2.58	93.0	85.9	8.7	93	113	123	140	158	199	249	329	366	407	1.1	.9
357	7	63.0	.029	0	3.01	92.5	86.3	9.4	92	111	123	142	162	204	255	339	371	416	1.0	1.4
358	10	63.4	.028	1	2.28	92.5	85.9	8.9	93	110	121	138	154	196	251	326	360	403	.9	1.2
359	16	62.0	.017	0	2.48	93.1	86.3	8.8	92	111	122	139	156	199	254	332	366	411	.9	.9
360	5	59.8	-	0	1.55	93.9	85.8	9.2	96	112	122	141	164	209	258	326	346	376	.9	.6
361	6	62.8	-	0	2.96	92.5	86.3	8.5	91	112	123	144	165	210	265	350	381	416	1.0	.8
362	9	61.5	.017	1	2.40	93.2	86.2	9.1	94	111	121	138	154	193	250	334	362	408	1.0	1.1
363	4	61.7	.018	1	2.12	92.3	85.7	9.1	95	115	125	143	163	208	263	338	376	424	1.0	1.0
364	3	64.0	.027	0	2.38	92.6	86.1	8.8	95	106	119	136	151	181	242	315	350	406	1.0	1.0
365	8	62.0	.052	1	2.71	92.3	85.9	9.1	93	111	126	147	169	214	259	333	360	409	.9	1.5
366	5	62.6	-	0	2.82	93.9	87.0	8.9	92	111	121	137	156	194	248	338	368	414	1.2	.3
367	10	61.9	.022	1	2.21	92.9	85.6	9.3	94	112	123	141	159	201	258	334	372	412	.9	1.6
368	7	62.9	.022	1	2.63	92.2	86.0	9.1	92	110	121	142	162	211	257	334	371	417	.9	1.2
369	3	61.5	-	0	3.00	93.3	85.2	8.6	93	113	124	142	159	197	246	337	368	430	1.1	.9
370	7	58.1	.035	2	2.27	92.2	85.3	8.7	88	110	123	144	164	206	260	338	374	416	1.1	1.4
371	7	64.0	.031	1	2.61	92.4	86.6	9.5	91	106	117	136	154	200	254	323	353	401	.9	1.1
372	16	63.0	.024	1	1.82	92.6	85.6	8.4	94	112	124	141	159	201	255	341	374	416	.9	1.2
373	3	60.7	-	0	2.61	93.9	86.1	8.0	95	114	126	145	163	202	257	333	367	430	1.4	.6
AVERAGE		62.2	.029	1	2.48	92.8	86.0	8.9	93	111	122	141	159	201	254	334	367	412	1.0	1.1
SAMPLES	156																			

District 11 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

South Plains area: Southern Kansas, southwestern Missouri, western Arkansas, Oklahoma, and northern Texas

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
374	4	65.0	0.014	1	2.18	99.7	92.4	9.2	93	115	127	148	170	213	247	322	356	407	1.0	0.8
375	9	61.4	.019	1	2.91	99.9	93.0	8.9	90	110	126	150	176	220	258	319	350	398	.9	1.2
376	6	64.1	-	4	3.53	99.6	94.0	8.9	91	108	122	145	169	214	247	318	348	407	.9	1.1
377	5	64.3	-	0	3.00	100.1	92.7	8.9	94	108	120	140	160	202	246	300	328	370	.6	1.4
378	17	58.6	.015	0	2.75	99.3	91.9	8.7	90	110	124	148	174	221	265	326	355	403	1.0	1.4
379	10	59.9	.027	1	2.50	99.3	90.8	8.8	92	110	124	149	175	223	266	330	366	410	1.0	1.5
380	7	66.5	.030	0	3.07	99.6	94.2	9.2	90	109	126	154	182	213	243	325	361	409	1.0	1.7
381	17	57.3	.012	1	2.68	99.5	91.3	8.8	92	111	127	155	182	227	263	314	339	386	1.0	1.3
382	10	59.4	.037	1	3.73	100.0	91.9	8.5	94	108	123	142	164	218	271	340	365	408	.9	1.4
383	3	65.6	-	1	2.92	99.7	93.5	9.2	87	103	120	144	166	206	244	337	373	420	.7	1.3
384	3	55.9	-	1	2.92	100.3	92.1	8.0	90	110	130	162	191	232	259	315	342	396	.9	.6
385	16	65.8	.020	1	2.35	99.4	92.6	8.5	94	109	124	145	168	214	249	323	360	410	.9	1.8
386	7	65.0	.033	1	2.94	99.3	93.7	9.4	92	109	122	144	169	211	244	325	361	405	.9	1.3
387	7	57.6	.021	3	2.63	99.5	92.1	8.8	94	113	127	152	179	226	266	324	355	404	1.0	1.5
388	3	59.5	-	0	2.77	100.0	92.6	8.3	92	110	126	159	188	230	257	314	341	400	.8	1.2
389	7	66.8	.013	1	2.20	99.3	93.3	9.4	91	108	124	145	167	204	237	296	345	406	1.0	1.2
390	10	58.7	.016	1	2.75	99.4	92.0	9.2	90	109	125	156	187	232	266	325	356	408	.9	1.2
391	5	58.7	-	0	3.21	100.0	92.5	9.5	92	108	120	144	170	218	273	330	356	410	1.1	.9
392	8	65.9	.046	1	2.71	99.4	93.2	9.2	91	109	125	152	180	215	243	327	368	406	.9	1.3
393	3	58.6	.008	0	2.83	99.8	90.9	8.6	92	109	122	144	172	233	277	330	360	410	1.0	1.1
AVERAGE		61.7	.022	1	2.83	99.7	92.5	8.9	92	109	124	149	174	219	256	322	354	404	.9	1.3
SAMPLES	157																			

District 12

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Southern Texas

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
394	1	62.6	0.078	1	2.48	96.2	87.0	9.2	96	116	128	150	175	222	265	346	380	413	1.0	1.5
395	10	62.3	.028	0	3.04	93.7	87.1	8.3	98	114	125	141	159	202	261	346	374	413	1.1	1.2
396	13	59.9	.023	1	1.76	94.2	85.8	8.7	95	110	122	142	164	216	279	338	360	395	.9	1.2
397	10	62.0	.021	1	2.02	94.2	87.4	7.8	100	115	126	142	158	200	258	330	364	413	1.0	1.7
398	13	60.2	.041	1	2.27	93.7	86.1	8.2	100	115	125	142	159	200	258	341	377	419	1.0	1.0
399	4	61.0	.019	1	1.64	94.1	85.6	8.7	91	111	124	143	162	209	276	339	361	396	.9	1.1
400	10	61.7	.021	1	2.96	94.3	87.4	9.3	92	108	120	138	157	201	258	348	383	412	1.0	1.2
401	5	63.4	.026	2	1.76	95.7	85.0	9.1	95	113	122	134	146	176	230	343	375	408	1.0	1.5
402	3	62.1	.097	0	2.51	97.2	86.8	8.7	88	106	121	144	167	213	256	350	385	424	1.0	1.0
403	3	62.4	.031	3	3.85	94.3	87.6	9.5	91	108	120	140	158	202	250	348	384	420	1.0	1.0
404	1	62.0	.093	1	2.66	96.6	87.0	9.5	86	111	124	145	168	214	258	345	384	408	1.0	1.0
405	1	61.8	.078	1	2.70	96.5	87.5	9.2	91	118	128	152	180	220	260	339	380	416	1.0	1.0
406	4	61.8	.060	1	2.42	96.5	86.8	9.2	92	112	126	150	177	220	266	346	385	413	.9	1.6
407	13	59.7	.030	1	3.11	94.3	87.6	8.3	96	112	124	142	161	208	267	342	371	415	1.0	1.3
408	3	64.7	.014	0	2.31	93.0	87.3	9.1	92	110	118	130	142	178	234	304	336	384	1.5	.5
409	7	62.3	.060	1	3.05	95.1	87.1	8.7	95	111	125	146	167	207	253	337	371	415	.9	1.2
410	13	62.6	.033	1	3.46	94.2	86.4	8.5	94	111	124	142	161	203	255	326	359	401	.9	1.5
411	3	61.8	.007	0	3.65	91.2	86.2	8.0	94	114	124	141	155	198	261	330	350	388	.8	1.2
412	4	62.7	.029	1	2.98	94.3	87.6	9.0	95	119	128	143	159	197	250	345	385	421	1.1	1.0
413	1	61.3	.044	1	3.08	95.1	87.3	9.2	92	115	127	148	168	216	266	360	403	446	1.0	1.5
AVERAGE		61.9	.042	1	2.69	94.7	86.8	8.8	94	112	124	143	162	205	258	340	373	411	1.0	1.2
SAMPLES	122																			

District 12 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968 --Continued
(Average values of different brands)

Southern Texas

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
414	3	61.9	0.073	4	3.15	100.2	90.9	9.3	90	109	125	148	174	209	246	340	379	424	0.9	1.6
415	5	54.8	.007	0	* .00	101.0	90.7	9.2	90	109	124	158	194	234	263	320	341	377	.8	1.5
416	10	60.7	.017	1	3.19	100.1	92.9	9.1	93	110	124	148	173	217	265	342	372	415	1.0	1.7
417	4	63.7	.016	1	2.95	100.1	92.4	8.8	95	113	125	144	163	211	253	310	334	361	.9	1.4
418	13	58.3	.017	1	3.11	100.1	92.4	8.9	93	109	122	145	169	224	265	326	362	410	.9	1.4
419	10	62.4	.014	2	2.85	100.2	92.8	8.4	96	112	123	139	156	207	248	321	368	420	1.0	1.1
420	1	63.7	-	-	4.00	99.6	90.4	-	-	-	-	-	-	-	-	-	-	-	-	-
421	13	62.8	.030	2	3.03	100.2	92.4	8.9	94	111	123	143	163	207	248	308	333	368	1.0	1.6
422	10	58.6	.018	2	3.29	100.1	92.3	8.5	97	111	124	144	164	218	267	332	364	408	1.0	1.3
423	1	62.6	.055	1	2.59	99.6	90.0	9.5	87	112	126	150	175	218	263	344	376	416	1.0	1.0
424	1	61.5	.030	1	2.80	100.1	92.3	9.1	92	113	125	149	174	222	270	346	378	410	1.0	2.0
425	4	58.9	.011	2	3.06	100.2	92.9	9.1	95	112	123	145	170	220	279	339	365	405	1.0	1.6
426	3	57.5	-	-	4.05	100.0	91.0	8.2	94	103	124	144	164	202	236	298	338	394	1.1	1.4
427	13	58.0	.015	3	3.67	100.5	92.5	8.6	94	112	124	147	172	224	268	319	347	398	.9	1.6
428	7	61.3	.045	2	3.01	100.3	91.8	9.1	90	108	121	143	166	209	252	326	366	411	1.1	1.3
429	3	61.4	.011	1	2.78	99.9	93.4	8.5	90	110	121	140	158	200	250	318	358	420	1.2	.8
430	13	60.7	.019	2	3.17	100.4	92.0	8.0	98	119	132	150	170	215	257	326	357	404	1.0	1.1
431	4	61.9	.051	1	3.11	100.6	91.1	9.2	92	113	126	150	172	214	262	337	376	409	1.1	1.2
432	1	64.2	.046	1	2.70	100.2	91.3	10.0	90	110	121	142	164	210	256	330	370	414	1.0	1.0
433	1	63.7	.052	1	2.70	100.1	90.7	9.5	86	108	121	143	166	210	258	335	376	423	1.0	1.0
434	3	61.2	.017	0	3.51	100.1	93.4	9.6	90	105	122	149	174	220	268	348	375	420	1.0	1.0
AVERAGE		60.9	.029	1	3.14	100.2	91.9	9.0	92	110	124	146	169	215	259	328	362	405	1.0	1.3
SAMPLES	123																			

† Research octane numbers above 100 determined by ASTM D1656. * Not included in average for lead.

District 13

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

South Mountain States: Southwestern Kansas, panhandles of Oklahoma and Texas, western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and eastern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										Percent	
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)											
									IBP	Percent evaporated								End point	Resid	Loss
										5	10	20	30	50	70	90	95			
435	3	62.0	0.059	2	2.29	91.7	82.3	9.1	100	118	133	156	176	217	258	312	332	376	0.8	2.2
436	28	60.5	.043	1	2.79	92.7	85.4	7.4	103	122	133	150	167	208	259	337	373	413	.9	1.0
437	37	61.4	.025	0	2.34	92.3	85.3	7.3	101	121	133	149	165	203	251	334	370	411	1.0	.9
438	3	55.7	.069	0	1.71	92.7	83.9	8.7	97	111	128	154	180	228	274	332	358	401	.8	1.2
439	37	58.6	.048	1	2.35	92.8	85.0	7.8	96	117	130	149	168	211	265	345	380	422	.9	1.1
440	3	64.4	.024	0	2.37	92.4	85.2	7.7	100	121	129	141	156	193	238	330	355	416	1.0	.2
441	17	59.0	.053	1	2.57	93.6	85.5	7.6	100	121	132	148	167	213	273	339	366	406	.9	.7
442	3	58.9	.088	0	2.37	91.8	83.4	7.1	105	119	135	165	194	241	280	329	350	390	.8	1.0
443	29	61.9	.052	0	2.42	92.2	85.0	6.9	108	128	141	155	170	202	250	340	377	417	.9	1.0
444	32	60.0	.051	0	2.62	92.8	85.3	7.7	100	119	131	149	167	211	263	344	380	420	1.0	1.0
445	13	60.7	.030	1	2.40	91.8	85.2	7.4	103	122	133	148	163	200	251	334	374	417	.8	1.1
446	6	59.5	-	-	2.13	90.0	83.6	8.6	103	122	138	164	189	237	289	358	387	420	1.0	1.1
447	4	59.8	.120	1	1.19	92.9	81.8	9.1	92	111	123	145	167	215	272	356	390	431	.9	1.1
448	13	60.5	.040	1	2.07	91.0	84.6	7.9	98	118	132	152	172	213	262	336	369	409	1.0	1.1
449	14	63.8	.018	1	2.46	92.0	85.2	7.7	102	120	130	143	157	196	246	338	378	415	.9	.7
450	4	60.4	.030	1	2.01	91.0	83.8	8.4	90	110	125	147	170	218	268	333	364	407	1.0	1.1
451	17	58.4	.095	2	3.21	93.9	85.5	8.5	91	108	126	149	172	218	267	334	364	404	1.0	1.6
452	17	61.4	.039	1	2.50	92.5	85.0	8.0	100	120	132	149	168	209	258	349	387	424	1.0	1.0
453	18	58.2	.064	0	2.50	93.9	86.0	8.7	89	109	124	147	168	214	270	348	378	417	1.1	1.4
454	7	62.9	.039	1	2.48	92.4	85.3	8.0	99	115	125	138	152	194	255	340	376	421	.9	.7
455	54	58.5	.051	0	2.30	92.9	84.8	7.6	99	119	133	154	175	221	272	340	368	407	.9	.9
456	3	55.6	.060	0	2.92	91.8	82.9	8.9	95	116	136	164	190	235	276	334	355	382	.7	1.3
457	3	63.2	.003	0	3.16	91.6	87.6	10.0	98	116	132	155	175	205	229	278	314	370	.8	1.7
AVERAGE		60.2	.050	1	2.40	92.3	84.7	8.1	99	118	131	151	171	213	262	336	367	409	.9	1.1
SAMPLES	365																			

District 13 (Cont.)

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

South Mountain States: Southwestern Kansas, panhandles of Oklahoma and Texas, western Texas, New Mexico, Colorado, Utah, Arizona, Nevada, and eastern California

Premium-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)										Percent
									IBP	Percent evaporated								End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
458	29	63.9	0.026	0	2.80	99.1	92.7	7.8	98	117	129	148	169	216	251	324	363	411	1.0	1.0
459	3	58.5	.028	1	3.29	100.2	91.1	8.7	99	115	129	150	170	210	250	316	340	408	.8	1.0
460	17	63.4	.017	1	2.84	99.9	92.7	8.2	98	117	128	146	165	209	246	307	336	385	.9	.8
461	3	69.7	.005	0	2.46	100.0	98.3	7.2	96	124	134	151	170	208	230	270	310	367	1.0	.2
462	37	61.7	.029	1	2.87	99.3	91.7	7.6	95	117	131	152	174	218	258	327	360	407	.9	1.0
463	3	54.3	.011	0	3.86	100.0	92.5	9.4	98	114	129	156	182	225	268	320	340	410	1.0	1.0
464	38	61.8	.017	1	2.83	99.6	93.2	7.6	98	120	134	154	175	218	251	309	343	392	.9	.9
465	28	61.3	.018	1	2.96	99.8	92.3	7.2	99	120	133	153	175	220	255	320	352	402	1.0	.9
466	3	50.6	.024	0	3.15	100.0	90.6	8.6	95	114	135	165	194	239	279	327	344	394	1.0	1.0
467	3	52.9	.018	0	3.25	99.8	92.1	7.4	101	124	142	168	192	236	279	334	353	426	.8	1.7
468	3	50.6	.010	0	2.80	100.1	91.4	8.7	101	124	147	179	203	240	275	320	340	393	.8	1.2
469	53	61.8	.016	1	2.65	99.1	91.5	7.6	98	119	132	151	171	214	255	315	346	398	1.0	1.0
470	7	67.3	.016	0	2.50	100.1	95.9	7.7	96	119	132	151	171	213	244	297	328	386	.9	.6
471	19	59.3	.028	0	2.63	99.7	91.2	8.7	91	109	124	147	169	216	258	318	348	396	1.0	1.5
472	17	62.7	.041	1	2.68	98.2	91.9	8.1	97	119	134	158	180	222	256	317	356	401	.9	.9
473	17	58.6	.037	3	3.36	99.9	91.4	8.7	91	108	124	146	168	214	259	323	352	397	1.0	1.6
474	4	59.6	.030	1	2.98	96.7	88.7	8.1	89	112	127	153	180	227	275	354	384	418	1.0	.8
475	14	67.0	.008	1	2.41	99.8	95.9	7.3	100	123	136	154	175	213	235	280	315	370	.9	.8
476	13	61.0	.027	1	2.05	96.8	89.6	7.9	96	117	131	153	175	224	269	328	360	404	1.0	1.2
477	4	55.6	.124	2	3.38	97.9	86.7	8.2	90	111	129	160	189	241	290	359	388	425	.9	1.1
478	6	58.2	-	-	2.97	96.9	88.3	8.5	101	121	136	159	184	238	292	355	384	414	.9	1.4
479	13	61.2	.037	1	2.88	98.2	91.4	7.9	97	117	131	149	170	214	251	330	372	415	.8	.8
480	32	62.9	.025	0	2.74	99.5	93.5	7.8	96	118	131	153	176	217	250	311	345	392	1.0	.9
AVERAGE		60.2	.027	1	2.88	99.2	91.9	8.0	97	117	132	155	177	221	260	320	350	400	.9	1.0
SAMPLES	366																			

District 14

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

North Mountain States: Wyoming, Montana, Idaho, eastern Washington, and eastern Oregon

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number		RVP, ASTM D323, lb	Distillation, ASTM method D86										Percent	
						Research, ASTM D908	Motor, ASTM D357		Temperature range, °F (corrected to sea level)											
									IBP	Percent evaporated									End point	Resid.	Loss
										5	10	20	30	50	70	90	95			
481	5	59.2	0.040	1	2.10	93.1	85.3	8.5	95	113	126	148	170	214	266	338	367	426	0.8	1.3
482	21	60.6	.070	1	2.54	92.5	84.1	8.7	95	113	128	149	171	217	267	338	367	403	1.0	1.5
483	14	60.3	.072	0	2.65	92.2	83.8	8.4	97	116	129	151	173	218	269	339	370	402	1.0	1.2
484	6	59.3	.047	0	2.20	92.9	85.1	8.6	98	117	130	151	173	218	268	338	370	421	.9	.9
485	15	59.7	.060	1	2.13	92.2	85.0	8.5	95	114	130	151	173	220	272	348	386	417	1.0	1.3
486	8	60.2	.044	-	2.25	92.4	85.0	7.8	102	119	130	149	168	211	261	339	371	423	.9	1.4
487	9	59.9	.028	0	2.60	92.8	85.2	8.9	97	113	126	147	168	213	265	341	372	418	1.1	1.4
488	6	61.0	.087	-	2.59	94.0	84.7	8.8	96	113	127	150	172	218	266	341	372	406	.9	1.4
489	19	60.7	.054	-	2.33	92.2	84.5	8.5	96	113	128	150	171	217	269	349	383	421	1.1	1.5
490	7	59.1	.042	-	2.68	94.0	86.2	9.5	95	111	125	148	170	217	268	343	374	418	1.0	1.9
491	9	61.7	.041	-	2.01	93.0	85.0	9.2	93	108	123	145	168	212	256	338	372	415	.9	1.7
492	14	60.6	.059	2	2.66	92.1	84.6	8.2	94	112	126	148	169	212	261	334	367	411	1.1	1.2
AVERAGE		60.2	.054	1	2.40	92.8	84.9	8.6	96	114	127	149	171	216	266	341	373	415	1.0	1.4
SAMPLES	133																			

Premium-price gasoline

493	9	58.8	0.012	0	2.63	99.2	91.1	9.1	91	106	123	153	179	227	266	328	354	404	1.0	1.8
494	8	61.1	.011	-	2.62	99.0	91.3	8.8	96	116	132	158	183	226	264	334	366	418	1.0	1.0
495	16	59.8	.014	1	2.71	98.0	90.2	8.7	96	116	132	155	178	221	262	342	380	418	1.1	1.3
496	6	60.4	.018	1	2.75	99.0	91.1	8.7	96	117	128	157	181	221	259	329	357	415	.9	1.1
497	14	60.3	.041	1	3.00	98.8	89.5	8.1	96	115	130	155	179	221	258	323	356	394	1.0	1.3
498	21	61.4	.041	0	2.95	99.0	90.1	8.8	92	111	126	149	171	216	253	319	355	404	1.0	1.4
499	5	62.6	.014	1	2.62	99.2	92.0	8.6	96	118	133	158	179	215	253	319	348	408	.8	1.2
500	9	66.0	.024	-	2.34	100.0	92.1	8.6	94	111	129	153	178	218	247	313	346	391	1.0	1.5
501	7	60.3	.013	-	2.61	100.1	91.7	9.6	90	109	124	148	174	214	261	324	350	406	.8	1.8
502	19	59.2	.023	-	2.90	98.8	90.9	8.7	93	113	132	159	185	228	263	340	373	414	1.1	1.7
503	7	64.3	.039	-	3.03	100.2	91.3	9.0	94	113	129	154	178	218	246	311	342	388	.9	1.4
504	16	60.5	.027	2	2.82	98.9	90.6	8.3	95	112	128	153	177	222	260	321	352	405	1.0	1.2
AVERAGE		61.2	.023	1	2.75	99.2	91.0	8.8	94	113	129	154	179	221	258	325	357	405	1.0	1.4
SAMPLES	137																			

District 15

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Pacific Northwest: Western Washington and western Oregon

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): Percent evaporated: IBP	5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
505	9	60.3	0.010	1	2.27	93.0	86.9	10.5	93	106	119	140	162	208	260	339	371	409	1.0	2.1
506	7	60.6	.038	1	2.73	93.7	85.8	8.6	98	116	128	148	168	211	258	334	363	405	.9	1.3
507	1	59.8	.010	4	2.07	92.8	86.7	10.5	85	95	107	128	151	206	261	340	367	402	1.0	3.0
508	3	62.7	.013	0	2.15	91.5	85.5	10.6	88	104	116	136	156	197	243	312	346	395	.9	1.3
509	7	60.8	.027	1	2.64	93.5	86.4	9.0	96	115	127	150	172	217	268	345	380	415	1.0	1.3
510	10	62.0	.026	0	2.52	93.5	85.9	9.3	96	112	125	143	161	201	246	340	382	417	.8	1.4
511	10	61.3	.042	1	2.38	93.5	86.4	9.6	95	111	124	144	163	205	252	337	377	415	1.1	1.4
512	10	61.5	.021	1	2.64	93.4	86.7	9.0	96	112	126	147	167	214	272	349	378	410	1.0	1.7
513	10	61.3	.031	0	2.52	94.0	86.5	9.7	93	110	123	142	162	204	250	341	381	418	.9	1.5
514	10	60.9	.062	2	2.74	93.9	86.4	9.4	93	112	126	146	166	208	255	344	379	413	.8	1.2
AVERAGE		61.1	.028	1	2.47	93.3	86.3	9.6	93	109	122	142	163	207	257	338	372	410	.9	1.6
SAMPLES	77																			

Premium-price gasoline

515	7	62.8	0.011	1	2.34	100.2	91.3	8.8	95	112	125	145	167	206	238	303	336	386	0.8	1.5
516	3	62.6	.008	0	2.30	99.8	91.5	10.2	89	105	120	144	169	210	244	307	342	400	.5	1.5
517	1	64.8	.010	2	2.62	99.5	91.8	10.8	103	116	124	139	155	195	238	313	350	400	1.0	2.0
518	9	61.7	.020	1	2.41	100.2	91.6	8.8	99	116	129	151	173	213	250	315	345	393	.8	1.5
519	9	64.6	.012	0	2.27	99.4	92.6	10.4	90	106	119	138	158	198	237	308	339	387	.9	1.8
520	10	60.8	.018	1	2.19	99.9	91.1	9.4	95	111	127	151	174	217	253	316	349	392	1.0	1.7
521	8	61.6	.023	1	2.14	100.1	91.8	10.0	90	105	123	152	178	221	254	319	356	402	1.0	1.9
522	10	61.9	.010	0	2.63	100.0	90.9	9.4	93	107	122	143	165	209	249	304	330	376	1.0	1.9
523	10	61.9	.009	1	2.31	99.8	91.5	9.5	95	110	124	146	167	210	248	315	346	399	1.0	1.7
524	10	61.4	.017	1	1.98	100.0	91.3	8.9	96	113	129	154	180	222	255	316	349	399	1.0	1.7
AVERAGE		62.4	.014	1	2.32	99.9	91.5	9.6	95	110	124	146	169	210	247	312	344	393	.9	1.7
SAMPLES	77																			

District 16

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Northern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid	Percent: Loss
525	11	60.8	0.019	1	2.42	94.1	86.3	8.5	92	108	121	139	156	201	261	346	379	421	1.0	1.5
526	5	62.8	.012	1	3.06	94.0	87.9	10.2	94	109	121	140	158	195	242	317	352	400	1.1	1.5
527	11	60.7	.034	1	2.70	94.4	86.2	9.6	88	104	119	141	163	210	255	330	363	406	1.0	1.5
528	11	59.3	.030	1	2.38	94.0	86.9	10.3	91	102	116	138	161	210	269	348	380	427	1.0	2.0
529	11	61.3	.019	1	2.77	94.1	85.9	8.9	92	109	123	146	168	214	265	337	365	397	1.0	1.5
530	3	62.1	.036	0	2.13	91.6	83.0	9.4	100	115	128	148	167	205	243	296	318	400	.8	1.2
531	10	61.2	.016	1	2.28	94.1	86.7	8.3	94	111	124	139	155	191	238	323	359	414	1.1	1.5
532	3	65.3	.003	0	2.44	91.4	87.0	10.7	92	105	119	140	163	200	237	280	300	348	.6	1.4
533	11	60.8	.012	1	1.95	94.0	85.5	8.9	90	106	120	141	162	208	259	343	376	408	1.0	1.9
534	8	60.3	.056	3	2.72	94.6	84.9	9.2	88	107	123	144	163	204	250	325	358	394	1.1	1.5
535	3	61.6	.023	0	1.66	91.5	85.3	9.3	96	103	124	146	165	206	252	319	345	413	.9	1.1
AVERAGE		61.5	.024	1	2.41	93.4	86.0	9.4	92	107	122	142	162	204	252	324	354	403	1.0	1.5
SAMPLES	87																			

Premium-price gasoline

536	11	58.9	0.012	2	2.50	99.8	91.0	8.7	89	107	124	149	174	221	267	332	359	412	1.1	1.7
537	4	59.3	.010	1	3.50	99.9	92.3	10.6	87	99	113	136	160	210	260	323	352	391	1.0	2.2
538	12	59.0	.037	1	3.25	99.9	91.4	9.8	89	102	117	140	165	217	261	323	354	400	1.0	1.9
539	12	60.2	.023	2	2.54	100.0	91.4	9.3	91	108	123	147	171	217	260	332	358	396	1.0	1.7
540	5	58.0	.017	1	3.03	100.0	91.8	9.2	93	107	121	144	166	210	259	327	358	394	1.2	1.2
541	11	60.5	.011	1	2.93	100.0	91.2	8.9	90	108	121	141	161	204	253	333	364	415	1.0	1.6
542	3	59.5	.013	0	3.19	100.0	92.3	10.5	90	108	121	146	169	217	262	322	364	406	1.0	1.2
543	8	60.4	.028	1	2.50	100.0	91.1	9.2	93	109	124	149	175	217	260	333	360	399	1.0	1.5
544	11	56.5	.009	1	2.59	99.9	91.4	8.6	90	109	126	152	177	221	266	329	359	400	1.1	1.4
545	3	59.2	.016	0	3.37	99.9	93.8	10.7	91	106	118	139	162	210	257	307	324	376	.8	1.5
546	12	59.3	.013	2	2.96	99.9	91.0	8.3	92	110	123	138	154	194	247	331	360	411	1.0	1.4
547	3	60.5	.016	0	2.59	100.1	91.8	9.5	95	110	122	140	160	203	252	314	339	386	.8	1.2
AVERAGE		59.3	.017	1	2.91	100.0	91.7	9.4	91	107	121	143	166	212	259	326	354	399	1.0	1.5
SAMPLES	95																			

District 17

TABLE 3. - Motor gasoline survey, summer 1968--Continued
(Average values of different brands)

Southern California

Regular-price gasoline

Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid	Percent: Loss
548	3	59.7	0.039	-	0.84	92.6	83.7	9.2	95	115	128	147	166	206	252	316	340	388	1.0	1.0
549	8	57.2	.122	3	2.67	94.0	85.6	8.4	98	116	128	147	171	220	281	354	379	414	1.1	1.1
550	6	57.0	.135	1	2.46	94.2	85.4	8.5	95	112	126	149	176	229	283	348	372	415	.9	1.3
551	3	60.5	.111	-	2.16	91.5	84.8	10.2	90	104	121	147	172	216	260	334	366	418	.8	2.2
552	8	57.3	.141	3	3.01	94.8	85.5	9.4	92	109	123	148	175	230	285	351	377	415	1.1	1.5
553	8	57.8	.027	1	2.11	94.1	86.3	9.1	93	109	124	146	167	214	283	370	397	429	1.0	1.4
554	8	56.6	.047	1	1.95	94.2	85.6	7.9	99	116	127	142	159	213	300	376	400	429	1.0	1.2
555	6	57.5	.052	1	1.83	94.0	85.7	9.5	93	111	122	141	163	211	279	358	385	417	1.1	1.5
556	6	54.8	.051	2	1.49	94.9	85.3	8.2	95	119	134	160	187	242	295	346	366	399	1.1	1.4
557	8	61.5	.131	3	3.12	94.3	85.3	8.1	101	118	127	141	155	200	259	335	366	408	1.0	1.1
558	3	62.2	.018	-	2.45	91.3	86.6	11.3	89	106	123	147	167	204	238	293	335	402	.7	1.6
AVERAGE		58.4	.079	2	2.19	93.6	85.4	9.1	95	112	126	147	169	217	274	344	371	412	1.0	1.4
SAMPLES	67																			

Premium-price gasoline

559	9	58.9	0.035	1	3.06	100.0	91.3	8.9	93	110	122	142	164	215	263	320	344	393	1.0	1.2
560	3	57.5	.041	-	3.01	100.1	91.0	9.9	94	111	125	150	176	220	264	325	349	407	1.0	1.0
561	6	57.0	.048	2	2.97	100.0	91.1	9.3	96	111	124	146	173	225	269	323	348	399	.9	1.6
562	9	57.2	.028	1	2.97	100.1	91.2	8.1	98	118	131	151	171	215	261	323	353	403	1.1	1.1
563	3	57.2	.071	-	3.18	100.3	91.3	9.6	93	114	130	158	184	218	249	307	330	392	.9	1.1
564	1	59.8	.039	1	3.14	100.3	92.3	9.6	96	110	121	143	166	214	261	325	356	396	1.3	1.7
565	3	57.1	.034	-	3.03	100.3	91.4	8.6	99	115	128	149	170	211	256	330	361	420	1.0	1.0
566	9	58.3	.030	2	3.21	100.1	91.3	8.4	99	116	126	141	157	203	258	323	351	412	1.1	.9
567	6	56.4	.026	1	3.12	100.0	91.5	8.4	97	115	130	153	177	226	275	338	362	411	1.1	1.3
568	6	58.2	.038	1	2.91	100.2	91.4	9.1	96	115	128	150	172	214	260	325	359	413	1.1	1.5
569	8	57.4	.052	2	2.76	100.4	91.1	8.6	97	115	127	149	173	219	264	331	364	419	1.1	1.3
570	9	55.9	.023	1	2.84	100.0	91.5	8.9	93	108	122	143	168	224	274	328	353	397	1.1	1.4
AVERAGE		57.6	.039	1	3.02	100.2	91.4	9.0	96	113	126	148	171	217	263	325	353	405	1.1	1.3
SAMPLES	72																			

TABLE 4. - Motor gasoline survey, summer 1968
(Average values for brands from different districts)

Regular-price gasoline

District No.	Name	Items (brands)	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100 ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid	Loss
1	NORTHEAST AREA	15	63	61.2	0.049	1	2.25	95.0	86.3	9.3	90	106	119	138	158	205	264	342	374	413	1.0	1.6
2	MID-ATL. COAST REGION	19	329	60.8	.045	1	2.11	94.9	86.3	9.3	93	110	122	141	161	207	267	348	378	416	.9	1.6
3	SOUTHEAST AREA	18	252	61.2	.034	1	2.38	94.5	86.4	8.9	94	110	123	142	161	205	260	342	375	414	.9	1.5
4	APPALACHIAN AREA	21	188	61.2	.027	1	2.58	94.6	87.0	9.6	91	107	120	141	161	206	261	340	372	414	.9	1.7
5	MICHIGAN	18	111	61.4	.046	1	2.95	94.8	86.6	9.7	92	107	121	141	162	207	260	339	371	411	.8	1.6
6	NORTH ILLINOIS AREA	17	140	61.4	.043	1	2.63	94.8	86.8	9.4	91	107	120	139	159	205	259	336	368	411	1.0	1.3
7	CENTRAL MISS. AREA	20	106	61.2	.038	1	2.77	94.6	86.8	9.1	93	112	124	144	165	211	264	343	377	416	.9	1.3
8	LOWER MISS. AREA	19	174	61.3	.037	1	2.61	94.1	86.3	8.8	94	111	123	143	162	204	257	341	374	413	1.0	1.2
9	NORTH PLAINS AREA	16	84	61.2	.053	1	2.13	92.5	84.7	9.2	92	108	122	143	164	210	263	338	369	413	1.0	1.5
10	CENTRAL PLAINS AREA	13	114	61.6	.037	2	2.16	92.4	85.0	8.4	96	115	127	145	165	209	261	343	381	423	.9	1.2
11	SOUTH PLAINS AREA	20	156	62.2	.029	1	2.48	92.8	86.0	8.9	93	111	122	141	159	201	254	334	367	412	1.0	1.1
12	SOUTHERN TEXAS	20	122	61.9	.042	1	2.69	94.7	86.8	8.8	94	112	124	143	162	205	258	340	373	411	1.0	1.2
13	SOUTH MOUNTAIN STATES	23	365	60.2	.050	1	2.40	92.3	84.7	8.1	99	118	131	151	171	213	262	336	367	409	.9	1.1
14	NORTH MOUNTAIN STATES	12	133	60.2	.054	1	2.40	92.8	84.9	8.6	96	114	127	149	171	216	266	341	373	415	1.0	1.4
15	PACIFIC NORTHWEST	10	77	61.1	.028	1	2.47	93.3	86.3	9.6	93	109	122	142	163	207	257	338	372	410	.9	1.6
16	NORTHERN CALIFORNIA	11	87	61.5	.024	1	2.41	93.4	86.0	9.4	92	107	122	142	162	204	252	324	354	403	1.0	1.5
17	SOUTHERN CALIFORNIA	11	67	58.4	.079	2	2.19	93.6	85.4	9.1	95	112	126	147	169	217	274	344	371	412	1.0	1.4
AVERAGE				61.1	.042	1	2.45	93.8	86.0	9.1	93	110	123	143	163	208	261	339	372	413	.9	1.4
SAMPLES			2,568																			

Premium-price gasoline

1	NORTHEAST AREA	15	62	59.0	0.019	1	2.77	100.7	91.6	9.7	90	104	119	142	167	219	265	327	356	401	1.0	1.6
2	MID-ATL. COAST REGION	19	330	59.8	.025	1	2.79	100.5	91.7	9.6	92	110	124	147	171	221	264	328	359	401	1.0	1.6
3	SOUTHEAST AREA	18	255	60.0	.016	1	3.04	100.3	92.0	9.2	92	108	122	144	167	216	261	323	351	396	.9	1.4
4	APPALACHIAN AREA	21	185	60.9	.013	1	2.96	100.1	92.3	9.5	91	108	123	146	169	215	258	324	356	405	.8	1.7
5	MICHIGAN	18	112	62.0	.028	1	2.96	100.0	92.2	9.7	92	109	124	148	173	217	255	327	361	405	.8	1.6
6	NORTH ILLINOIS AREA	18	143	61.3	.017	1	2.93	99.8	92.3	9.5	91	107	122	146	170	215	254	321	353	404	1.0	1.5
7	CENTRAL MISS. AREA	20	106	61.6	.018	1	3.13	100.0	92.4	9.2	93	112	126	149	172	215	253	323	355	401	.9	1.3
8	LOWER MISS. AREA	19	176	61.1	.020	1	3.10	100.0	92.2	8.9	93	111	124	146	170	216	259	326	354	403	1.0	1.2
9	NORTH PLAINS AREA	16	85	63.8	.039	1	2.56	99.3	91.9	9.3	91	108	123	147	171	214	249	322	358	408	.9	1.6
10	CENTRAL PLAINS AREA	13	114	62.5	.027	1	2.67	98.9	91.5	8.4	94	114	128	151	175	217	256	328	362	411	.9	1.1
11	SOUTH PLAINS AREA	20	157	61.7	.022	1	2.83	99.7	92.5	8.9	92	109	124	149	174	219	256	322	354	404	.9	1.3
12	SOUTHERN TEXAS	21	123	60.9	.029	1	3.14	100.2	91.9	9.0	92	110	124	146	169	215	259	328	362	405	1.0	1.3
13	SOUTH MOUNTAIN STATES	23	366	60.2	.027	1	2.88	99.2	91.9	8.0	97	117	132	155	177	221	260	320	350	400	.9	1.0
14	NORTH MOUNTAIN STATES	12	137	61.2	.023	1	2.75	99.2	91.0	8.8	94	113	129	154	179	221	258	325	357	405	1.0	1.4
15	PACIFIC NORTHWEST	10	77	62.4	.014	1	2.32	99.9	91.5	9.6	95	110	124	146	169	210	247	312	344	393	.9	1.7
16	NORTHERN CALIFORNIA	12	95	59.3	.017	1	2.91	100.0	91.7	9.4	91	107	121	143	166	212	259	326	354	399	1.0	1.5
17	SOUTHERN CALIFORNIA	12	72	57.6	.039	1	3.02	100.2	91.4	9.0	96	113	126	148	171	217	263	325	353	405	1.1	1.3
AVERAGE				60.9	.023	1	2.87	99.9	91.9	9.2	93	110	124	147	171	216	257	324	355	403	.9	1.4
SAMPLES			2,595																			

TABLE 5. - Motor gasoline survey, summer 1968
Data for some additional grades

District	Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Percent: Loss
										Third grade gasoline											
1	571	5	59.6	0.087	1	2.01	93.7	84.9	8.5	95	109	124	145	168	218	278	341	369	408	1.0	1.7
1	572	1	60.7	.039	2	1.23	94.6	84.6	9.7	88	106	119	139	159	206	270	359	386	414	1.0	1.0
2	573	15	60.2	.045	1	1.49	93.1	85.2	9.3	93	110	122	142	161	213	277	349	377	419	1.0	1.4
3	574	9	60.5	.015	0	1.94	91.5	85.0	8.9	92	109	124	147	173	224	281	356	391	430	.9	1.5
3	575	8	61.0	.072	1	1.91	92.5	85.0	8.7	97	112	125	143	164	211	267	336	364	405	1.0	1.2
4	576	8	59.8	.025	1	1.08	93.0	85.2	9.6	91	104	119	140	161	212	275	348	374	417	.8	2.0
5	577	4	60.9	.026	1	1.48	92.7	85.9	10.0	95	112	124	146	168	211	258	329	363	401	.6	1.2
6	578	1	61.4	.026	1	1.95	93.0	85.8	9.1	88	102	126	135	154	200	262	337	370	421	1.0	2.0
6	579	4	60.5	.053	2	2.80	93.3	85.7	9.4	91	107	122	142	162	208	263	340	370	407	1.0	1.6
7	580	2	62.9	.020	1	1.93	91.1	85.5	-	-	-	-	-	-	-	-	-	-	-	-	-
7	581	9	61.1	.037	1	1.96	92.8	86.2	9.8	90	106	118	137	158	202	258	331	361	412	.8	1.3
8	582	9	60.2	.060	2	1.20	92.1	84.7	9.5	91	106	117	136	155	203	264	341	375	434	1.4	1.0
11	583	3	60.2	-	0	1.51	92.0	84.4	9.2	95	113	122	140	158	203	263	337	364	410	1.2	.8
12	584	9	61.5	.015	0	2.71	92.7	87.1	8.6	93	113	124	144	164	203	251	324	355	406	1.1	1.1
13	585	3	61.6	.052	1	1.96	92.3	85.0	9.2	94	110	120	137	156	201	263	330	357	411	.8	.6
16	586	4	64.6	.010	2	2.49	91.3	84.5	10.1	88	100	116	141	165	214	267	334	362	399	1.0	2.0
17	587	1	57.3	.086	1	1.22	91.0	83.7	9.3	91	110	124	149	173	221	275	343	372	412	1.1	.9
AVERAGE			60.8	.042	1	1.82	92.5	85.2	9.3	92	108	122	141	162	209	267	340	369	413	1.0	1.3
SAMPLES		95																			

TABLE 5. - Motor gasoline survey, summer 1968 -- Continued

Data for some additional grades

District	Item	Samples	Gravity, ASTM D287, °API	Sulfur, ASTM D1266, wt pct	Gum, ASTM D381, mg/100ml	Lead, ASTM D526, g/gal	Octane number: Research, †ASTM D908	Octane number: Motor, ASTM D357	RVP, ASTM D323, lb	Distillation, ASTM method D86: Temperature range, °F (corrected to sea level): IBP	Percent evaporated: 5	10	20	30	50	70	90	95	End point	Percent: Resid.	Loss
Intermediate grade gasoline																					
1	588	5	62.4	0.022	1	1.95	97.1	88.1	10.6	87	102	114	135	155	204	262	332	359	393	1.0	1.9
2	589	19	60.2	.036	1	2.39	97.0	87.1	9.5	94	110	122	143	164	210	261	338	367	401	.9	1.3
3	590	3	61.7	.025	-	2.83	96.6	88.2	9.1	90	108	118	138	158	202	253	332	364	400	.9	1.1
3	591	4	60.4	.030	3	3.17	96.7	87.3	9.5	94	110	123	142	161	205	256	331	362	401	.8	1.2
4	592	6	60.2	.027	2	2.93	96.7	87.5	8.9	90	107	122	144	164	212	271	348	376	418	.8	1.6
7	593	3	60.9	.022	0	3.08	96.6	87.2	9.8	99	115	127	148	169	209	257	333	365	402	1.0	1.0
8	594	15	61.1	.028	1	2.73	96.7	88.2	9.6	90	107	118	137	158	206	262	338	366	402	1.0	1.2
11	595	4	60.4	-	0	2.16	96.6	87.9	9.1	92	108	120	140	162	208	256	323	345	386	.9	1.1
12	596	9	62.1	.021	1	2.22	96.6	88.3	8.7	94	107	122	145	168	217	268	329	352	389	1.1	1.1
13	597	6	63.8	-	-	2.60	94.4	87.6	7.1	102	120	131	146	162	201	245	320	356	399	.9	.8
15	598	3	62.7	.008	0	2.50	95.7	89.0	10.2	92	110	121	139	160	203	252	317	345	392	.7	1.3
17	599	3	57.1	.030	-	2.13	96.4	87.3	8.5	97	110	122	140	161	212	280	364	394	428	1.0	1.2
AVERAGE			61.1	.025	1	2.56	96.4	87.8	9.2	93	110	122	141	162	207	260	334	363	401	.9	1.2
SAMPLES		80																			
Super-premium gasoline																					
1	600	1	58.8	0.010	1	3.54	103.4	94.2	9.4	88	102	119	142	167	220	255	317	346	398	1.0	2.0
2	601	3	58.9	.013	2	3.13	103.1	94.4	8.7	94	109	124	148	173	222	263	317	344	398	1.0	1.7
3	602	1	57.8	.006	0	3.22	103.0	94.3	8.6	86	103	121	146	173	221	263	319	341	394	1.0	2.0
4	603	1	60.4	.001	0	2.80	102.5	95.0	9.8	92	101	114	134	158	226	263	320	348	392	1.0	2.0
5	604	1	60.0	.020	1	3.68	103.2	94.5	9.9	87	107	119	142	170	229	262	320	353	403	.3	.7
6	605	1	61.7	.001	0	3.62	103.1	96.1	9.1	90	101	116	138	165	222	257	311	332	387	1.0	1.0
13	606	1	65.1	.050	1	2.63	101.8	94.0	6.8	104	133	145	160	177	212	238	280	318	380	1.0	1.0
14	607	1	68.5	.010	-	2.20	101.0	94.6	7.6	100	121	134	157	178	208	226	278	320	381	1.0	1.0
15	608	1	62.8	.010	3	2.85	102.3	94.3	7.2	100	118	129	144	160	204	242	311	340	388	1.0	1.0
16	609	2	64.0	.010	3	2.94	101.7	94.6	7.2	95	111	125	140	157	201	234	304	349	398	1.0	2.0
17	610	1	63.6	.018	-	2.36	101.5	94.3	-	105	126	136	155	175	208	237	296	332	402	1.0	1.5
AVERAGE			62.0	.014	1	3.00	102.4	94.6	8.4	95	112	126	146	168	216	249	307	338	393	.9	1.4
SAMPLES		14																			

† Research octane numbers above 100 determined by ASTM D1656.

TABLE 6.--Cumulative percents of samples of all grades by research octane numbers by districts, motor-gasoline survey, summer 1968

Research octane number	District																	Cumulative total samples
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
90										0.4			2.0	1.8				21
91			0.9				0.9	0.3		2.6	0.9	0.8	5.9	8.5	0.6	3.7	2.8	98
92			2.1			0.3	2.2	2.1	24.3	25.9	21.6	3.4	23.5	25.1	2.5	6.9	6.3	471
93	0.7	2.0	5.6	2.8	1.8	1.0	4.9	9.1	49.7	43.0	39.7	8.4	37.9	33.9	23.4	8.5	9.0	878
94	10.9	11.4	35.2	14.9	14.9	17.0	25.2	34.0	49.7	49.1	48.8	33.1	49.1	48.0	48.1	39.9	31.3	1,735
95	43.1	42.0	47.2	47.4	45.6	45.0	50.0	47.3	49.7	50.0	49.7	43.3	50.5	49.1	48.7	48.4	47.2	2,524
96	50.4	48.9	50.8	51.0	50.4	50.2	52.2	50.0	49.7	50.4	50.0	47.1	51.4	49.1	50.6	48.4	47.9	2,679
97	53.3	52.2	51.9	52.1	50.4	50.2	53.1	52.9	49.7	51.3	50.9	53.2	59.0	57.2	50.6	48.4	49.3	2,830
98	54.0	52.2	51.9	52.1	50.4	50.9	53.1	52.9	50.9	53.9	51.6	53.2	60.7	64.2	50.6	48.4	49.3	2,875
99	55.5	54.5	52.4	55.9	60.1	64.0	58.8	54.8	88.8	84.2	75.0	53.6	68.8	76.4	54.4	51.6	49.3	3,305
100	73.0	78.7	85.5	89.9	94.7	93.1	95.1	93.9	100.0	100.0	97.8	88.6	99.9	96.3	98.7	97.9	97.2	4,927
101	97.1	97.0	98.7	99.7	99.6	99.7	100.0	100.0			100.0	100.0	99.9	100.0	99.4	98.9	99.3	5,312
102	99.3	99.6	99.6	99.7	99.6	99.7							100.0		100.0	100.0	100.0	5,343
103	100.0	100.0	100.0	100.0	100.0	100.0												5,352

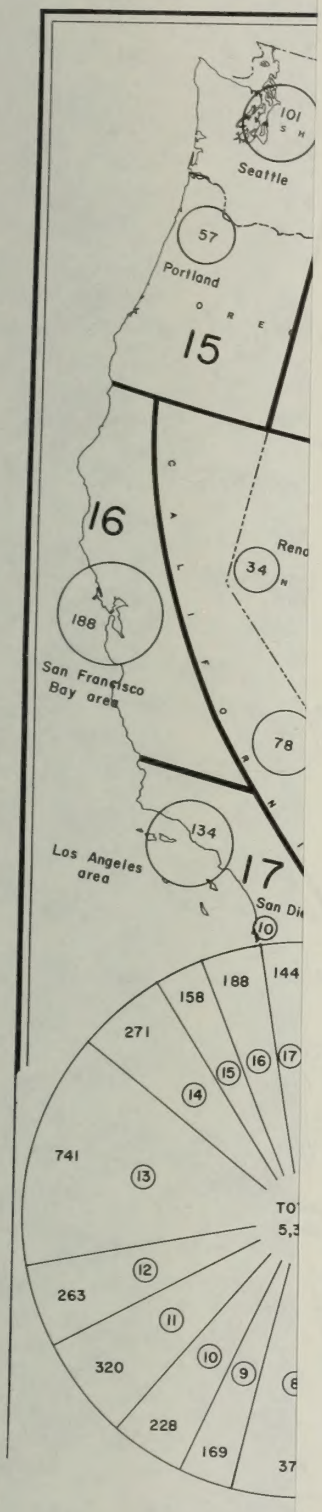
TABLE 7.--Cumulative percents of samples of all grades by motor octane numbers by districts, motor-gasoline survey, summer 1968

Motor octane number	District																	Cumulative total samples
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
81										0.4			0.3					3
82										.4			1.6	1.8		0.5		19
83									4.1	1.3			3.1	8.1		1.6	1.4	60
84		0.9	0.8				0.4	1.9	19.5	9.2	1.9		11.5	24.4		5.3	3.5	244
85	12.4	9.3	8.5	3.1	1.8	3.1	5.3	10.2	42.6	30.3	14.7	5.7	32.7	33.9	1.9	14.9	23.6	804
86	31.4	30.0	27.6	21.9	20.2	23.5	22.1	33.2	49.7	46.5	36.4	19.4	46.4	44.3	27.8	27.7	42.4	1,750
87	48.2	48.3	47.9	41.8	45.6	40.1	44.7	44.4	49.7	50.0	46.7	38.4	49.9	48.3	46.8	43.1	48.6	2,480
88	52.6	50.9	51.3	51.5	50.4	49.5	52.7	50.5	52.7	51.3	50.5	49.0	53.2	52.4	48.7	47.9	49.3	2,735
89	54.0	52.3	51.9	52.1	50.4	50.2	53.1	51.9	52.7	52.2	51.4	53.2	58.4	63.5	50.6	48.4	49.3	2,849
90	56.9	54.9	52.4	53.6	50.9	50.2	53.5	54.8	53.3	52.6	55.8	54.4	61.5	72.3	53.2	52.7	50.7	2,973
91	73.0	69.3	60.9	59.3	57.0	56.4	58.4	62.3	62.7	56.6	63.9	63.5	68.6	79.7	74.7	78.7	83.3	3,510
92	89.8	90.9	87.4	82.7	82.9	78.2	79.6	84.5	93.5	86.0	76.2	77.9	83.7	88.2	94.3	92.0	98.6	4,578
93	99.3	98.1	98.9	97.7	97.8	96.5	96.5	96.3	98.8	97.8	92.5	97.3	90.1	98.2	99.4	96.3	99.3	5,160
94	100.0	99.6	99.8	98.7	99.6	99.7	99.6	98.4	100.0	99.6	95.9	100.0	92.2	99.6	100.0	99.5	100.0	5,259
95		100.0	100.0	99.2	100.0	99.7	100.0	99.5		100.0	98.1		93.3	100.0		100.0		5,289
96				100.0		100.0		100.0			99.1		95.4					5,314
97											99.4		97.0					5,327
98											100.0		97.6					5,333
99													99.5					5,347
100													99.9					5,350
101													100.0					5,351

TABLE 8. - Locations and numbers of samples, motor gasoline survey, summer 1968

State	Location	Samples
District 1 (Northeast area)		
Maine	Portland	28
Massachusetts	Boston area	109
	2 locations	137
District 2 (Mid-Atlantic Coast region)		
Connecticut	Hartford	65
	New Haven	2
Maryland	Baltimore	103
New Jersey and New York	New York City area	205
New York	Albany	36
	Ithaca	10
Pennsylvania	Harrisburg	31
Pennsylvania and New Jersey	Philadelphia area	160
Virginia	Richmond	84
	9 locations	696
District 3 (Southeast area)		
Alabama	Birmingham	59
	Mobile	30
Florida	Daytona Beach	10
	Jacksonville	27
	Miami area	129
	Tampa	8
Georgia	Atlanta	122
North Carolina	Charlotte	72
	Wilmington	29
South Carolina	Charleston	16
Tennessee	Chatanooga	30
	11 locations	532
District 4 (Appalachian area)		
New York	Buffalo	93
Ohio	Cincinnati	64
	Cleveland	99
	Lima	1
	Toledo	50
Pennsylvania	Northwest Pennsylvania	26
	Pittsburgh	39
West Virginia	Charleston	16
	8 locations	388
District 5 (Michigan)		
Michigan	Central Michigan	52
	Detroit	141
	Northern Peninsula	35
	3 locations	228
District 6 (North Illinois area)		
Illinois and Indiana	Chicago area	163
Iowa	Davenport	42
Wisconsin	Madison	20
	Milwaukee	64
	4 locations	289
District 7 (Central Mississippi area)		
Indiana	Evansville	24
	Indianapolis	73
Kentucky	Louisville	64
Missouri and Illinois	St. Louis area	65
	4 locations	226
District 8 (Lower Mississippi area)		
Arkansas	Little Rock	74
Louisiana	Baton Rouge	33
	Lake Charles	2
	New Orleans	67
	Shreveport	50
Mississippi	Jackson	77
Tennessee	Memphis	71
	7 locations	374
District 9 (North Plains area)		
Minnesota	Duluth	10
	Minneapolis-St. Paul	98
North Dakota	Fargo	44
	Williston	17
	4 locations	169
District 10 (Central Plains area)		
Iowa	Des Moines	42
Kansas	Phillipsburg	10
Kansas and Missouri	Kansas City area	84
Missouri	Jefferson City	10
Nebraska	Omaha	72
	Scottsbluff	10
	6 locations	228
District 11 (South Plains area)		
Kansas	Coffeyville	6
	McPherson	10
	Wichita	62
Missouri	Springfield	19
Oklahoma	Bartlesville	6
	Oklahoma City	72
	Tulsa	48
Texas	Dallas-Ft. Worth	75
	Tyler	12
	Wichita Falls	10
	10 locations	320
District 12 (Southern Texas)		
Texas	Corpus Christi	48
	Houston	167
	San Antonio	48
	3 locations	263
District 13 (South Mountain States)		
Arizona	Phoenix	75
	Tucson	28
California	Bakersfield	78
Colorado	Denver	108
Nevada	Las Vegas	24
	Reno	34
New Mexico	Albuquerque	88
	Deming	10
Texas	Amarillo	75
	Big Spring	10
	El Paso	71
	Lubbock	36
	Midland	60
Utah	Salt Lake City	44
	14 locations	741
District 14 (North Mountain States)		
Idaho	Boise	37
Montana	Billings	66
	Great Falls	17
Washington	Pasco	22
	Spokane	91
Wyoming	Casper	38
	6 locations	271
District 15 (Pacific Northwest)		
Oregon	Portland	57
Washington	Seattle	101
	2 locations	158
District 16 (Northern California)		
California	San Francisco Bay area	188
	1 location	188
District 17 (Southern California)		
California	Los Angeles area	134
	San Diego	10
	2 locations	144
	Total	96 locations 5,352

DISTRICT	LOCATIONS	SAMPLES	PERCENT
1	2	137	2.6
2	9	696	13.0
3	11	532	9.9
4	8	388	7.2
5	3	228	4.3
6	4	289	5.4
7	4	226	4.2
8	7	374	7.0
9	4	169	3.2
10	6	228	4.3
11	10	320	6.0
12	3	263	4.9
13	14	741	13.8
14	6	271	5.1
15	2	158	2.9
16	1	188	3.5
17	2	144	2.7
Total	96	5,352	100.0


101
S H
Seattle
57
Portland
O R E
15
16
34
N
188
San Francisco
Bay area
78
134
Los Angeles
area
17
San Di
10
144
188
158
271
16
15
17
14
741
13
TO
5,3
12
263
11
320
10
9
8
228
169
37

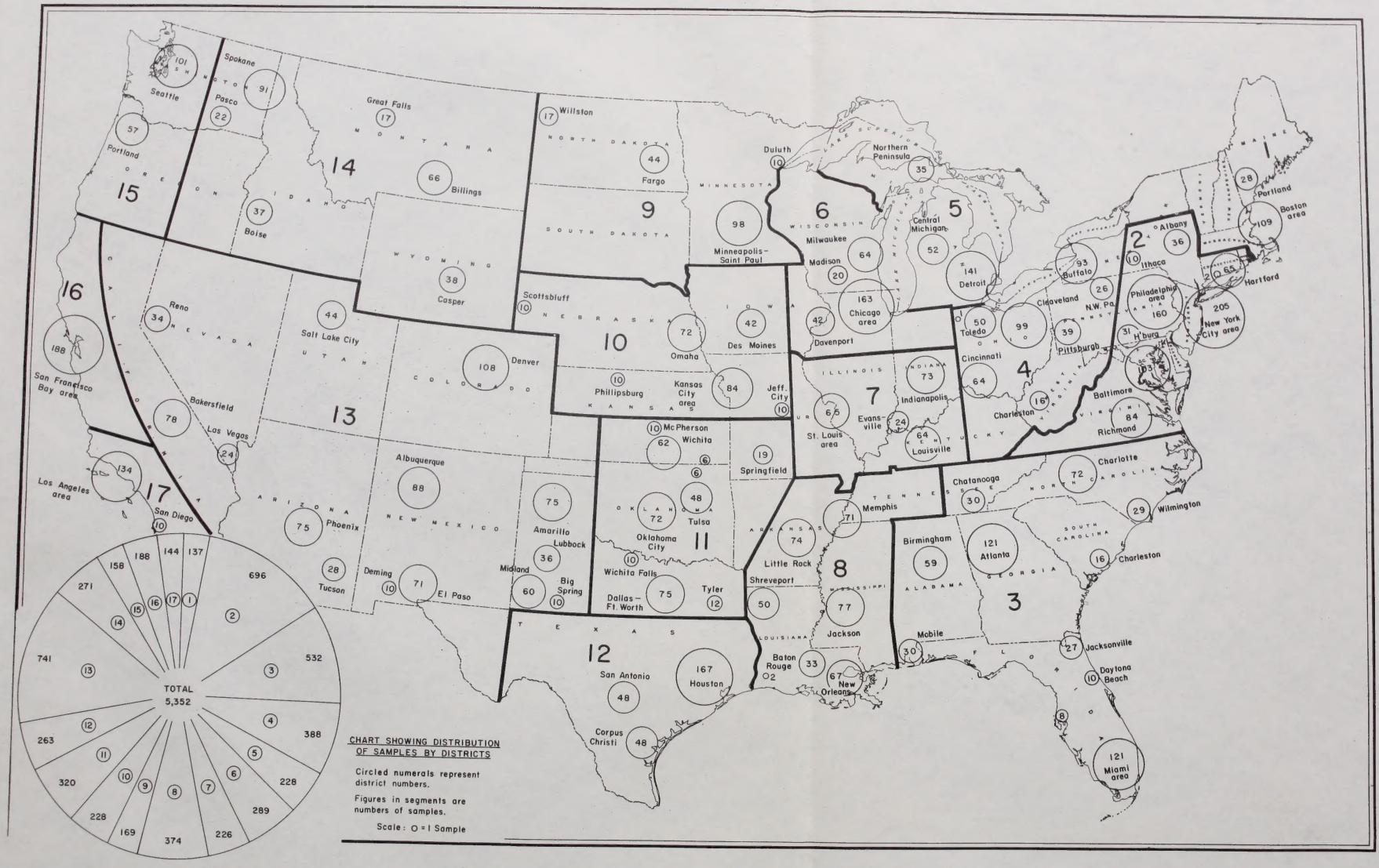


FIGURE 5.- Map Showing Locations and Numbers of Samples for the National Motor Gasoline Survey, Summer 1968.

INT.-BU.OF MINES,PGH.,PA. 13332

UNIVERSITY OF ILLINOIS-URBANA
3 0112 084235974